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Choice



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EDITORIAL TEAM

Editor Mark Craven
mark.craven@homecinemachoice.com
Deputy Editor Anton van Beek
anton.vanbeek@homecinemachoice.com
Art Editor John Rook

CONTRIBUTORS

Steve May, Richard Stevenson, Adrian Justins, Danny Phillips, John Archer, Tekura Maeva, Martin Dew, Ed Selley, Adam Rayner, Grant Rennell
Photography Mike Prior, Claire Collins

ADVERTISING

Senior Advertising Executive Jo Holmes
Tel: 01689 869 919
E-mail: joanna.holmes@homecinemachoice.com

MARKETING AND SUBSCRIPTIONS

UK: New, Renewals and Enquiries
Tel: 0844 543 8200
E-mail: mytimemedia@subscription.co.uk
USA & CANADA: New, Renewals and Enquiries
(001)-866-647-9191
REST OF WORLD: New, Renewals and Enquiries
Tel: +44 (0) 1689 869 896
BACK ISSUES
Tel: 0844 848 8822
From outside UK: +44 (0) 2476 322234
Email: customer.services@myhobbystore.com
www.myhobbystore.co.uk

MANAGEMENT TEAM

Group Editor Paul Miller, paul.miller@avtechmedia.co.uk
Group Sales Manager Duncan Armstrong
Head of Design and Production Julie Miller
Chief Executive Owen Davies
Chairman Peter Harkness

Published by MyTimeMedia Ltd

Enterprise House, Enterprise Way
Edenbridge, Kent, TN8 6HF
Tel: 0844 412 2262
From outside the UK: +44 (0) 1689 869 840

Distributed in the UK by Seymour Distribution Ltd

TEST WALL IMAGES:

©ISTOCKPHOTO.COM/CUI QUNYING
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Home Cinema Choice, ISSN 1359-6276, is published monthly with an additional issue in May by AVTech Media Ltd, a division of MYTIME MEDIA Ltd, Enterprise House, Enterprise Way, Edenbridge, Kent, TN8 6HF, UK. The US annual subscription price is £65GBP (equivalent to approximately 108USD). Airfreight and mailing in the USA by agent named Air Business Ltd, c/o Worldnet Shipping Inc., 195-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11434, USA. Postmaster: Send address changes to Home Cinema Choice, Worldnet Shipping Inc., 195-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Subscription records are maintained at CDS GLOBAL Ltd, Tower House, Sovereign Park, Market Harborough, Leicestershire, LE16 9EF. Air Business Ltd is acting as our mailing agent.



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WELCOME

A bigscreen TV can be the ideal centrepiece for a home cinema system, but the ultimate goal for all of us (assuming that space and budget are irrelevant) is to have a projector. Such a machine is, after all, what's used in commercial theatres. Yet **the projector world is in a curious state at the moment** – while 4K TVs are



launching everywhere you look, you can count the number of domestic 4K PJs on one hand. And they all come from Sony.

The IFA and CEDIA shows came and went without any rival models being unveiled (see our report on p25). And while I've heard that DLP 4K models can only appear in 2015 at the earliest due to licensing issues, neither JVC (D-ILA) or Epson (LCD) seem in the mood to embrace the new era of Ultra HD.

Whether this is down to pricing worries, technology issues or simple trepidation, I hope the situation improves soon. As always, we need more choice!

Mark Craven
Editor



MENU



CONTRIBUTORS



John Archer:
The UK's most experienced TV tester cut his teeth as an early HCC staffer



Richard Stevenson:
Industry veteran and former Editor of UK CE trade journal ERT



Steve May:
HCC's former Editor-in-Chief is one of the UK's most respected AV journo



Martin Pipe:
Technical expert Martin is renowned throughout the home cinema industry



Adam Rayner:
The UK's foremost expert in extreme audio writes about bass, hi-fi and, er, cartoons



Adrian Justins:
Made his name as the editor of *What Video & TV* and *What Home Cinema*

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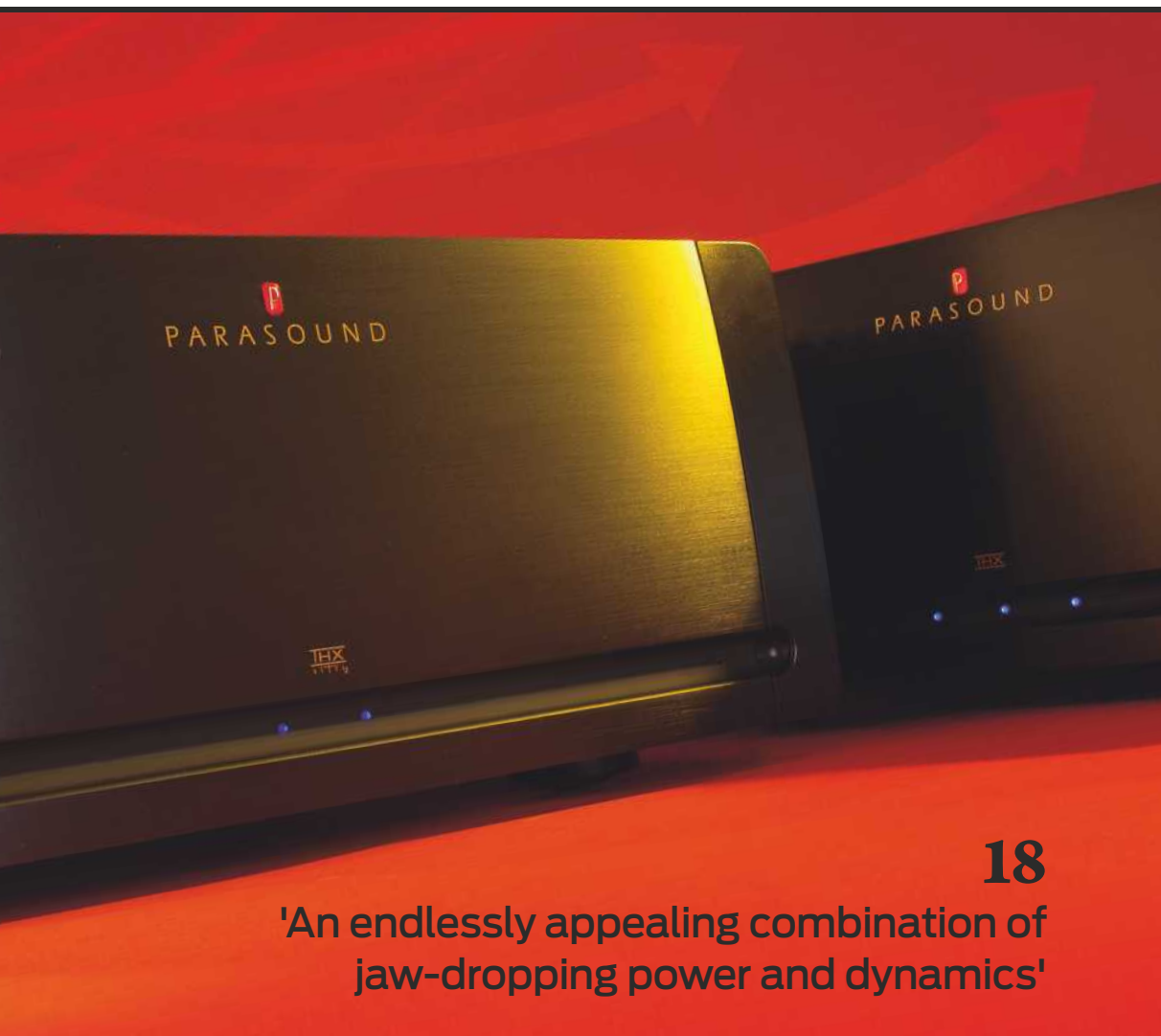
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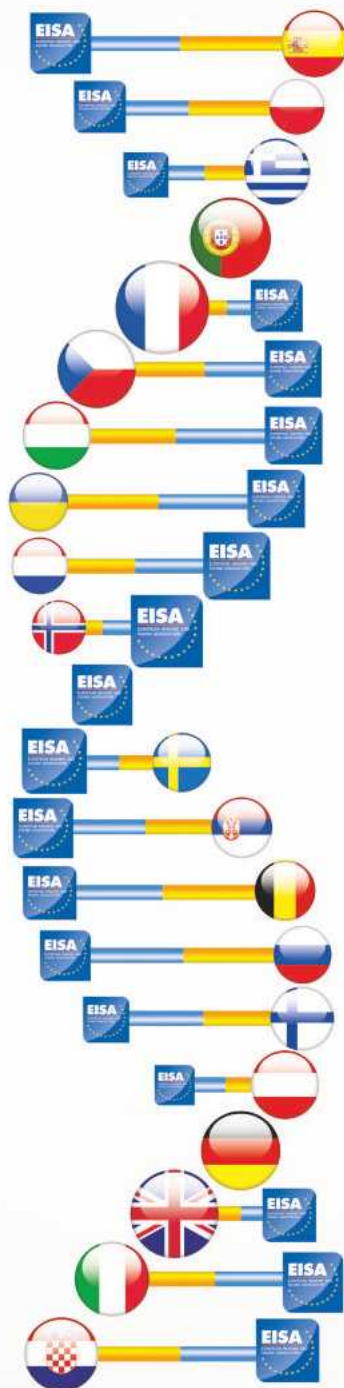
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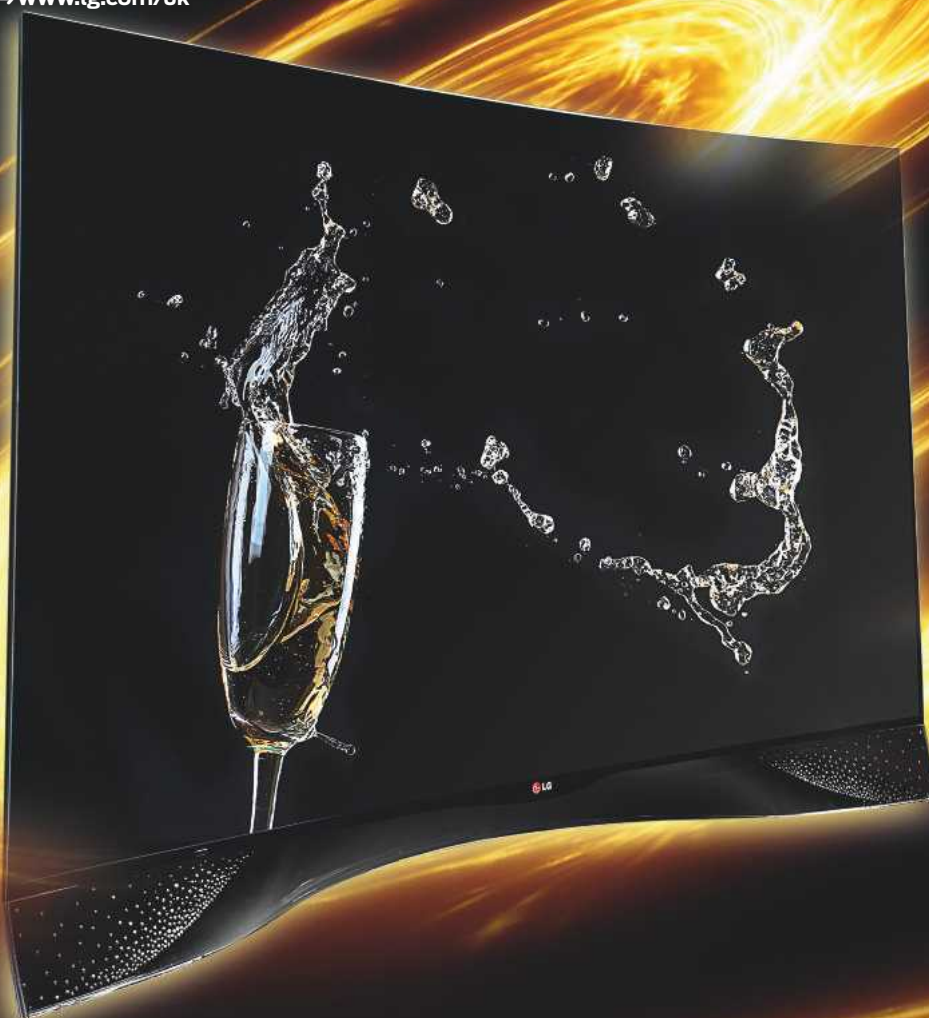
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BULLETIN

→ **NEWS HIGHLIGHTS** VIRGIN MEDIA Taking TiVo to a new level TIDAL Hi-res music and HD video streaming service arrives JOE KANE Video calibration legend joins the 4K standards debate TRINNOV Fancy a 32-channel AV processor? NEWS x10 The hottest news stories in bite-sized chunks TRANSFORMERS: AGE OF EXTINCTION Robots on the rampage in Dolby Atmos AND MUCH MORE!

Bigscreen bling

LG Swarovski OLED → www.lg.com/uk



LG has joined forces with jewellery honcho Swarovski to add a touch of over-the-top glamour to its reference-level curved OLED display. Unveiled at the IFA show, the 4mm-thin, 16kg screen sits on a stand embellished with 460 luminescent Aurora Borealis crystals, of three different sizes, all applied by hand. 'The epitome of luxury and refinement, Swarovski crystals and LG's premium OLED TV complement each other perfectly,' whispers the AV brand. Don't expect to see this on sale in Curry's. Or anywhere, actually.

Altitude sickness!

Trinnov Altitude³² → www.anthemavs.co.uk

Home cinema pre-amps probably don't come more cutting-edge than the new Altitude³² from luxury marque Trinnov – offering 32-channel processing and support for both Dolby Atmos and Auro 3D, this £20,000 slab caters for sophisticated cinema rooms. Traditional specs include 8-in, 2-out HDMI connectivity, remote control over a network and UPnP/DLNA hi-res audio streaming, while Trinnov's bespoke loudspeaker/room optimisation system and futureproofed and fully-upgradable software-based processing platform fettle its sonic output.



In-walls for all



Q Acoustics has launched a range of affordable home cinema in-wall speakers. The new Q-Install line features a three-driver LCR model, two different flavours of surround model (one using a 6.5in midbass driver, the other an 8in version), and a passive subwoofer, with prices ranging from £180 for the smaller Qi 65RP surround to £250 for the Qi SUB 80SP woofer. Magnetic low-profile grilles and slim designs (the maximum rear depth requirement for the sub is 100mm) ease installation. www.qacoustics.co.uk

Bluetooth with bite



After a Kickstarter campaign, startup product The Vamp has gone on sale. This dinky Bluetooth adapter brings convenient audio streaming to non-Bluetooth speakers, connecting via traditional terminals – the idea being that it allows music fans to 'upcycle' their much-loved loudspeakers. Priced at £50, The Vamp comes in red, white and black flavours, and offers a built-in battery alongside its internal amplifier. External hookups (microUSB and 3.5mm) cater for non-Bluetooth devices. www.thevamp.co.uk

Powerline pushed



Peripherals specialist Devolo has upped the speed of its Powerline networking range with the launch of the dLAN 1200+. Claiming a bandwidth of 1,200Mbps that makes it the fastest product in its class and seemingly ideal for data-heavy home-networking (showing 4K video around the house, perhaps), the dLAN 1200+ is compatible with existing dLAN models, and features one-button encryption to restrict network access. A starter pack will sell for £120, individual adaptors for £65. www.devolo.co.uk

Studios never saw 4K coming

Years of UHD scanning have been lost, claims AV legend Joe Kane

Hollywood has squandered decades' worth of 4K post-production that would have led to a content windfall for the UHD generation. That's the view of AV industry legend Joe Kane. Familiar to *HCC* readers for producing the *DVD Essentials* test disc and its Full HD successor, *DVE HD Basics*, Kane has worked closely with the AV tech community since the 1980s. He told *HCC* that one of the key reasons for the deficit of material available today for nascent 4K services such as Netflix and Amazon is that ultra high-resolution material was never archived in the past.

'This year we are celebrating 22 years of working in the 4K format, and we have almost nothing to show for it,' he moans. 'Nobody in the production world wanted to save that much data, or ever felt it would be used.'

Kane was a consultant for Eastman Kodak during the development of its first 4K 35mm film scanner. 'Kodak launched that in 1992. At the time 4K was thought to be the limit for what was necessary for 35mm film.' The problem was, he notes, that no one had high-resolution displays: 'So we just didn't know what the value of the format was. Nobody got the fact that the displays were going to get better.'

Kane cites the 1993 restoration of Disney's *Snow White and the Seven Dwarves* as an early missed opportunity. The animated classic was the first movie to be scanned into a 4K digital file. It was electronically cleaned-up and output back



Joe Kane: 'This year we are celebrating 22 years of working in the 4K format, and we have almost nothing to show for it'

to film, he says. The original 4K files were never kept.

Perhaps surprisingly, Kane also reveals that 4K mastering for disc was actually pioneered on the failed HD DVD format. 'When HD DVD first hit the market, Microsoft was a major partner,' he recalls. 'They hired me to help them make sure it looked better than anything anyone had ever seen before.' Almost all the Warner HD DVDs initially launched were scanned and processed in 4K with 16-bit colour and 4:4:4: chroma sampling, explains Kane, then downconverted to 1080p and 8-bit 4:2:0. 'It produced some of the best pictures anybody had ever seen!' he says. Certainly, first-wave HD DVD discs looked considerably better than rival Blu-ray releases, leading to an enthusiastic early adopter following.

Kane says HD DVD also ushered in hard drive archiving for the first time. 'At the time we were recording 1080p on a machine called the D5, which had 5:1 fixed compression. That compression had a signature all the way through the disc's VC-1 encode and made it onto the disc. So we went to HDD for the first time.'

At least Hollywood appears to have learnt its lesson. 'Today, now we have 4K DLP projectors, we can actually see why we need to scan 35mm film at 6K, and 65mm at 8K,' he says. And good news for enthusiasts – Kane is currently working on a 4K iteration of his test disc series.

Snow White was mastered in 4K in 1993, and some HD DVD discs were processed at 4K



PLAYLIST...

Team *HCC* spins up its disc picks of the month

Captain America: The Winter Soldier (All-region BD)

This superior comic book sequel packs a sufficient hefty punch in the hi-def AV department to make it a true home cinema hero.



Homeland: Season Three (All-region BD)



It starts a little shakily, but this third season of the hit espionage series quickly picks up steam and builds to an unforgettable finale.

Plastic (Region B BD)



This surprisingly fun addition to the British crime genre serves up lovely sun-drenched 1080p visuals and rocking DTS-HD MA 5.1 sonics.

The 'Burbs (Region B BD)



Arrow's meticulous 2K restoration and expansive array of extras make this UK platter a must for fans.

The Ipcress File (Region B BD)



From picture quality to extras, Network's recent UK BD improves in every way on ITV's 2008 platter.



EXTRAS...

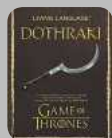
Small items that could make a big impression

Empire of the B's



A must for all B-movie fans, this fantastic book looks back at the history of Charles Band's legendary indie studio Empire Pictures, with reviews of all of the films it released and interviews with the people responsible for them.

Living Language: Dothraki



Teach yourself the fictional mutterings of *Game of Thrones* characters with the aid of this guide by language expert David J. Peterson.

Doctor Who FAQ



As *Doctor Who* currently thrills viewers on Saturday nights, it's a good time to dive into this unofficial guide that promises to reveal 'all that's left to know about the most famous Time Lord.'

Guardians of the Galaxy Vinyl Figures



Show your love for Marvel's intergalactic misfits with Funko's new range of five Pop! vinyl figures – including everyone's favourite space-faring racoon...

Tidal to offer wave of content

Lossless music and HD video streaming service launches in UK

Music streaming services aren't a new concept, but the brains behind new platform Tidal hope to expand the idea by introducing HD videos and curated content in addition to CD-quality audio. Launched by the company behind Scandinavian music-on-demand service WIMP Hi-Fi, Tidal should have arrived in the UK (and the US) by the time you read this.

The platform provides a music library of around 25 million tracks and works on an ad-free, subscription model granting unlimited access. The fee is high compared to competing platforms (£19.99 per month) but Tidal hopes its feature set will tempt those seeking good quality and a different user experience.

'Initially, streaming was all about access to everything, everywhere, which many services now provide,' explains CEO Andy Chen. 'Tidal is not just another one of those providers. From the start, we knew that music streaming is not just about millions of tracks or thousands of playlists. Instead, it is about the ultimate music experience that makes you want to stop and listen. Rather than remaining in the background to some other activity, music deserves to take centre stage with quality at its heart.'

To reach that ear-pleasing state, Tidal will offer FLAC files (or ALAC for Apple iOS users) at CD-quality 16-bit/44kHz streamed at 1,411kbps. In comparison, rival services such as Spotify and Rdio



Andy Chen: 'Tidal is about the ultimate music experience that makes you want to stop and listen'

use lower bitrates, typically ranging from 96kbps to 320kbps.

Users can choose to stream at a lower bitrate if they want to (when connecting over a mobile data network, perhaps) via two alternative formats dubbed High (AAC 320kbps) and Standard (AAC+ 96kbps).

As well as live streaming, Tidal subscribers will be able to archive music offline, downloading tracks to playback devices in the same format.

More than music

Beyond better-quality audio, Tidal claims two more elements that it believes will help it stand out.

A big draw could be its library of HD music videos, with the launch catalogue comprising 'more than 75,000' titles. In addition, Tidal promises a curated experience aided by its team of editors. Handpicked features will include 'album spotlights' such as Album of The Week and Hi-Fi Album of The Month, 'close-ups' on artists, labels, sub-genres and music eras, and playlists with 'a mission to educate, entertain, and enrich the music experience via in-depth knowledge.'

Aim your browser at www.tidalhifi.com to see if it floats your boat.



Sony wants to party with HT-GT1 soundbar

Aimed at those with music as well as television in mind

Sony's new HT-GT1 soundbar is being billed as the ideal partner for nighthawks throwing all-night raves in their living room, as well as an upgrade for a flatscreen TV with weedy audio.

A stereo soundbar/subwoofer combi, endowed with 260W of grunt, the HT-GT1 offers Sony's usual Clear Voice technology for dialogue boosting and digital audio hookup to your TV, in addition to Bluetooth streaming (including NFC device pairing) and a USB input for plug-n-play MP3 audio.

Styling, however, is more in-ye-face than the brand's other soundbars/soundbases, particularly the woofer, which looks like it's stepped off a 1980s

catwalk. And the boom box nostalgia doesn't stop there – the HT-GT1 offers LEDs that illuminate in time to the music and a Bass Bazuka button (seriously) that promises to take low-frequencies to 'crazy extremes'. Other party-friendly features include syncing with a Sony mini system (via Party Chain mode) and smart control achieved via the brand's SongPal app.

The sub even comes with handles so you can lug it from one room to another, and the 'bar' itself can be mounted on top. It's available now, priced at £200.

The HT-GT1 offers a light show to go with its 'extreme' bass





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Like all modern movies, half the pleasure of watching the highly anticipated film *Interstellar* lies in the soundtrack. And to enjoy the full benefit at home, you need a system that envelopes you in the same high definition soundscape you experience in the cinema.

That means KEF. Which is why, to celebrate the release of *Interstellar* (in cinemas Nov 7), we've not only teamed up with Warner Bros. to give away a dream trip to Iceland, taking in the Northern Lights and the movie locations, but we're also offering a chance to win a KEF E Series home theatre speaker package, worth £900.00.*

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DIARY

Our calendar ensures that you don't miss out...

→ OCTOBER

17: Teenage Mutant Ninja Turtles

Cowabunga dudes! The quartet of awesome amphibians are ready to make another splash at cinemas today with an action-packed 3D blockbuster produced by Michael Bay. www.paramountpictures.co.uk

20: Maleficent

Disney hopes to work its magic on disc collectors as this live-action re-imagining of *Sleeping Beauty* (starring Angelina Jolie as the eponymous wicked fairy) arrives on DVD, Blu-ray and 3D Blu-ray. www.disney.co.uk

24: Fury



Brad Pitt and Shia LaBeouf star in a World War II drama about a tank crew trapped, outnumbered and outgunned behind enemy lines. Find out if they make it back alive when the film hits cinemas today... www.sonypictures.co.uk

29: Connect with CEDIA Birmingham

Following September's London-centric affair, this informal trade-only event offers members of the CI industry based in the Midlands the chance to chat with CEDIA. www.cedia.co.uk

→ NOVEMBER

03: Spirited Away

StudioCanal brings its run of Hayao Miyazaki Blu-rays to an end with the long-awaited hi-def release of his Academy Award-winning animation *Spirited Away*. www.studiocanal.co.uk



07: Interstellar

Christopher Nolan's new flick warps into cinemas today, telling the story of a mission to transcend the limits

of human space exploration. Matthew McConaughey stars. www.warnerbros.co.uk

10: X-Men: Days of Future Past

Get ready for plenty of time-bending mutant mayhem as the latest entry in the popular franchise gets a DVD, Blu-ray and 3D Blu-ray release. www.fox.co.uk

13: HCC #241

The next issue of your favourite home cinema magazine hits the stands today, packed with hardware tests, features, outspoken opinion and in-depth software reviews. www.homecinemachoice.com



TiVo gets a face-lift

Catch-up boom leads Virgin Media to usher in UI shake-up, ponder 4K

Virgin Media TiVo is getting its first user interface revamp since launching four years ago. While features have been added and tweaked to the set-top box, this is the first fundamental revision of the subscription TV platform. A roll-out of the new UI to all 2.3 million TiVo households will be completed by Christmas.

Director of Digital Entertainment Scott Kewley told *HCC* that while the new colour scheme and crisper font are primarily cosmetic ('the old red interface background is going, what we have now is plum. Not purple – plum'), deeper changes to the set-top box's navigation have been driven by the changing way users are viewing TV.

Catch-up TV is the big beneficiary, now with its own menu tab. 'We're constantly building our on-demand library; you'll see more changes over the next six months as we introduce more VOD catch-up services,' explains Kewley. Over a billion programmes were watched on-demand via TiVo during 2013.

Other new features include a Partially Watched tab that takes you immediately to shows you haven't finished with, without any need to renegotiate individual programme folders, and What to Watch Now, which builds on TiVo's all-important intelligent search functionality.

'TiVo search is already the most intelligent on any TV platform,' argues Kewley. 'It uses the entire TiVo universe of viewers to determine the relevancy of search results and ranks search results by engagement. It knows the likelihood of any search term [an example is 'E' which immediately brings up *EastEnders*]. What to Watch Now works the same way, but in real time, recommending content based on your viewing behaviour.' Initially the service only pulls from live TV, but in time will be extended to include on-demand.

TiVo's auto-recording suggestion functionality is also changing, to shows filtered by type.

There are key changes being made under the bonnet, too. 'We're introducing HTML 5 into the



Scott Kewley: 'Our Virgin Media TiVo box is four years old, but it's still way ahead of anything that's out there'

product,' explains Kewley. 'The box was originally built using Flash for its apps, but increasingly apps are now being built in HTML 5.'

Adopting this standard means we'll be able to introduce more apps to the platform and make them faster. An HTML5 version of iPlayer will be introduced toward the end of the year.

The cable giant is also promoting Quick Start, a self-install option for TiVo users. However, there are no changes planned for the three-tuner TiVo box itself. 'Our box is four years old, but it's still way ahead of anything that's out there.'

The 4K question

At the recent IBC broadcast expo, TiVo demonstrated a 4K-enabled HEVC STB, but declined to timetable a release. While Virgin Media is unlikely to introduce a dedicated 4K channel any time soon, it's possible that it would support 4K via Netflix and others.

'It's not anything we intend to announce on,' says Kewley. 'Obviously we talk to Netflix all the time, but we don't have anything to confirm.' Kewley concedes, however, that he's watching 4K developments closely.

While Virgin Media's broadband speeds have soared past 100Mbps, the current TiVo PVR still uses a dedicated 10Mbps modem. According to Kewley, this isn't a limitation of the hardware: 'We could offer more, it's a limit we've imposed on it, but there's still capacity. HD video only requires 6-8Mbps. As we look forward and the demands for quality increase, we may look at it.'

On the subject of a next-gen Virgin Media 4K TiVo box, he says: 'It depends on what happens in the content space. For 4K, the whole industry has to shift. Panel manufacturers have to support it; HDMI has to support it; broadcasters and studios have to support it. If everyone gets behind it, that kind of helps...'

This month's top 10 news stories in handy, bite-sized chunks...



1 Fire TV blazes a trail to UK
Amazon's Fire TV streaming box is now on sale in the UK. Priced around £80, the dinky STB provides easy access to various streaming services (including Netflix and Prime Instant Video) and games. Amazon boasts that Fire TV offers three times the processing power of Apple TV, four times the memory of Chromecast, and voice search functionality.

2 Apple boss drops TV hints

Apple CEO Tim Cook has been dropping more hints about the brand's rumoured entry into the TV market. Interviewed on the *Charlie Rose Show*, Cook stated that 'TV is one [area] we continue to have a great interest in... but TV is one of those things that is stuck back in the '70s. The interface is terrible. I mean, it's awful.' With the Apple Watch now out there, maybe the time is finally right for Apple's iTV?

3 Meridian uses Imagination
High-end AV specialist Meridian Audio is gearing up to move into the wireless audio market. The company has announced a partnership with Caskeid creator Imagination Technologies to collaborate on what it describes as the 'next-generation of multichannel high-resolution wireless audio streaming systems.'

4 HMV fights back
Paul McGowan, Chief Executive of HMV parent Hilco, claims that 'it's only a matter of time before we overtake Amazon' when it comes to UK music and DVD sales. Recent figures show that steadily increasing sales at HMV have helped the chain take 19 per cent of UK music and DVD sales, compared to Amazon's 20 per cent share.

5 Destined for success
Destiny (the latest first-person shooter from *Halo* creators Bungie) pulled in a spectacular \$500m in first-day sales for publisher Activision – with an analyst from financial guru Cowen & Co. describing it as the most pre-ordered game in history that wasn't a sequel. Turn to p100 to see if we think it was worth the hype...

6 Atmos upgrade
Datasat has announced that its reference-grade RS20i home cinema processor is being updated to incorporate Dolby Atmos compatibility, with an early 2015 date earmarked. 'Datasat and Dolby have worked closely for many years to integrate all successful Dolby formats into its products and will continue with the integration of Dolby Atmos across the Datasat product range,' says the audio brand.

7 Mu-so adds Spotify
Naim Audio has confirmed that its new £900 Mu-so wireless music system will feature Spotify Connect functionality. And for those who like a splash of colour with their kit, the company is also releasing a selection of optional Deep Blue, Burnt Orange and Vibrant Red custom grilles for the Mu-so, priced at £70 each.

8 Clip shows
Netflix is exploring the possibility of offering specially curated two-to-five minute clips from TV shows and films for commuters to watch on mobile devices during short journeys. At least it should make a change from watching entire seasons of *Breaking Bad* in tiny bursts.

9 Vigilance pays off
Members of staff from nine cinema chains have been rewarded for preventing the illegal filming of movies in their respective theatres. The rewards included cash and certificates and were given as part of the Take Action scheme jointly funded by FACT (Federation Against Copyright Theft) and the FDA (Film Distributor's Association).

10 Freesat recommends
Subscription-free TV provider Freesat has launched a refreshed version of its Showcase recommendation service. New features provided by Showcase 2.0 include more recommended picks, more content categories and specially curated recommendations based around key events like Christmas and Easter. 'TV is created by people, for people, and we firmly believe that recommendations from other people are the best way for viewers to find something to watch', said outgoing Freesat MD Director Emma Scott.



Freemove's Showcase gets a retweak

PREMIERE

What's happening in the world of TV and films...

Rambo returns to action

Sylvester Stallone has confirmed that he'll be wrapping up the story of John Rambo with *Rambo: Last Blood*. Stallone also plans on calling the shots from behind the camera, as he did on 2008's *Rambo*.

Damon back for Bourne



Universal has apparently wooed Matt Damon and director Paul Greengrass into making a fourth Jason Bourne movie. Gossip hints at a release date as early as July 2016, pushing the planned *Bourne Legacy* sequel (starring Jeremy Renner) back indefinitely. However, *Fast & Furious* director Justin Lin is still attached to helm the latter project.

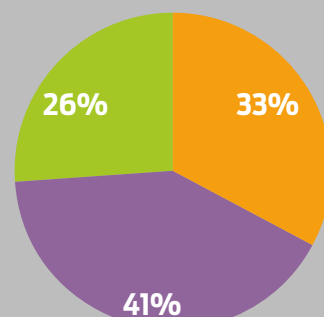
Mann takes Vacation

Queen of comedy Leslie Mann (*This is 40*) is in talks to join the cast of the upcoming *National Lampoon's Vacation* reboot-cum-sequel. Mann will play the now-adult Griswold daughter Audrey, who falls for a cocky news anchor (a role earmarked for Chris Hemsworth)

WE ASKED...

When it comes to playing discs, is your home cinema multi-region?

- Multi-region for BD and DVD
- Locked BD and multi-region DVD
- Region-locked for BD and DVD



Results from www.homecinemachoice.com
Go online for more polling action

Primed for Atmos

Transformers: Age of Extinction → Paramount → All-region BD & R2 DVD



Dinobots! Mark Wahlberg! Spectacular action! Michael Bay! There are plenty of reasons to be excited about the UK Blu-ray release of *Transformers: Age of Extinction*, but chief among them for home cinema fans is the news that it will be the UK's first BD with a Dolby Atmos soundtrack, as well as a Dolby 7.1 TrueHD mix. On top of that sonic goodness, you can look forward to plenty of extras on the two-disc 2D and 3D BDs that arrive on November 17. It's also available as a Digital HD download from November 3, but you don't care about that, do you?

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Parasound will be a brand unfamiliar to some, mainly because it does its business at the upper-end of AV, where budgets don't always reach. But its power amp line, dubbed Halo, is certainly worth saving up for...



Ed Selley's love of all things American extends from chunky power amps like Parasound's Halos to chunky peanut butter and jam sandwiches





WHEN WE REVIEW a product, we take performance, functionality, ease of use and value into account to conjure up a final verdict. Yet there is one aspect that our limited skills in clairvoyance occasionally prevent us from discussing – how quickly it will be replaced and the effect of that on the value of your purchase.

We can never say for sure when a product like an AV receiver will be turfed out on its ear in favour of an upgrade, but we can be fairly certain it is rarely longer than a year between models being released. So if you're desperate to keep up with changing standards and specs, it can mean replacing an entire product fairly often, and suffering sharp depreciation on the original amp when you trade it in. As someone who still has at least one foot in stereo, I find the cut-down

prices that even high-end AV receivers fetch after a few years eye-watering. The cost of staying up to date with formats and video processing is high.

There ought to be a better way of safeguarding your setup, and their almost is. At its heart, an AV receiver contains audio and video processing and amplification. While there is continuous innovation in the former categories, amplification is more of a constant, so if you separate the amps from the processing, these can stay in place when you change your front end – although, admittedly, affordable multichannel AV processors aren't exactly growing on trees. Still, if you can reduce the cost of your updates once you've made the initial purchase, then over time the power amps will pay for themselves.



Of course, Parasound would probably prefer for you to think of its Halo A21 and A31 as something more than a canny piece of economics. The Halo range is the American firm's flagship line, and as well as the stereo and three-channel options seen here, contains a five-channel amp and a truly Herculean monoblock. As well as allowing you to reduce the 'churn' in your electronics, they should offer you a significant boost to the performance of your system.

It's all about power!

First up, let's talk power. The Yamaha RX-A3040 I reviewed recently – and which served as the processing front-end for this review – quotes a power output of 150W into eight Ohms with two channels driven. This is far from unimpressive, but given that the Yamaha actually runs nine channels, probably not truly representative of what figures you'll get into five, seven or nine speakers. The higher figures that Yamaha quotes are into a single-channel and at distortion figures a little higher than ideal. But that's how the AV spec game is played.

Both Parasounds, by contrast, dispose of 250W into eight Ohms at trace distortion levels into all channels. Four-Ohm load? No problem – the figures climb to a significant 400W; again with all channels running simultaneously. There are very few multichannel speaker packages that are

'Effortlessly cinematic – with the Parasound Halo amps in situ, movie night will be any night you can justify'

going to present these amplifiers with any difficulty driving to stadium levels. Peer through the lids and a significant chunk of the internal real estate is given over to a power supply the size of a melon. These are seriously potent.

They are more than pure muscle though. The Halo amps have been designed with the principles of extremely high, measured performance and considerable longevity. Features like direct coupling keep the output stage as simple as possible, but thanks to extensive use of high-specification components, such as metal film resistors with 1 per cent tolerance and polypropylene and mica capacitors, practically no unwanted nastiness is likely to make its way into the circuit. Equally impressive is the carefully thought-through soft start procedure that both amps employ to restrict the surge of current on boot-up.



The result of this painstaking attention to detail isn't cheap (although in relative terms, the Halos aren't exorbitantly priced) but the Parasounds have drawn the attention of some big names, as the brand likes to shout about. We're told the new Atmos theatre at Dolby's US HQ uses multiple A21s to make it go. And both amps are THX Ultra2 certified, which is a fairly demanding set of hoops to jump through.

Both the A21 and A31 employ a 'soft-start' feature that limits current surge when fired up

They are built like bomb shelters, as someone who had to lift them out of their studio flat-sized boxes will attest. Yet they are pleasingly understated. There is no hiding their significant overall size but the clean styling with minimal controls and indicators looks suitably smart. Parasound has taken the logical and welcome decision to put the heatsinks on either side of the enclosure, which means that stacking them is entirely possible. Around the rear, as well as handles for making it (slightly) easier to move them around, you have a choice of balanced and unbalanced inputs (and looped outputs on the A21 only) with trim pots for each channel. Only the slightly wimpy speaker terminals count against the weapons-grade construction.

Two + Three = flexible fun

I know what you're thinking: why the hell are we reviewing a three-channel and two-channel amp combi when Parasound sells a five-channel model in the same range? >



Taking the top off: Parasound's Halo A31

A Silent running

The toroidal power transformer is rated at 1.5kVa and housed in a resin-sealed steel case for silent performance

B Keeping it cool

Twin side-mounted full-height cooling fans work to ensure heat is dissipated away from the power circuitry

C Magic number

The three amplifier modules use four pairs of 'high-output' bipolar transistors and are rated at delivering over 80 Amps of current

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BACKSIDE STORY

Both the A21 (top) and A31 (bottom) offer an unbalanced phono connection to your AV processor – those with compatible gear can use the balanced XLR inputs for greater signal purity. Additional rear controls include a 'ground' switch to tackle unwanted audible hum caused by ground loops, and Auto Turn On, which allows for both automatic 12V trigger and audio signal boot up.



Trust us, there is a degree of common sense to proceedings. The availability of a three-channel amp gives you the 'odd' number of channels your AV system is likely to need while allowing you to park a dedicated stereo amp in place for your main speakers. It also means that for listening in stereo, you only need to turn one amp on. Or, as Parasound suggests, you could just use the three-channel A31 for the key front soundstage and the amps in a more affordable AVR (which you can use for processing and switching duties also) for the rest of an array.

Living with these leviathans

With the amplifiers in situ, connected to the Neat Motive speakers (see p54) and the Yamaha RX-A3040 running as a processor, there are a few possible misconceptions that need to be tackled. With 250W on tap for all speakers you might think that there is a degree of volatility to living with the Halos – like toasting marshmallows over an active volcano – but in reality they slot in well. With the Yamaha controlling gain, setting volume levels is easy and the Halos are just as happy providing the power for *The Great British Bake-Off* as they are rampaging through movie night.

And movie night is likely to be any night you can justify. What the tremendous power available translates into is an effortlessness that means even when all hell is breaking loose on screen, there is a control and cohesion that allows you to appreciate the finer nuances in the most seismic moments. Helicarriers plummeting from the sky? A cinch. Category Five Kaiju? Coming right up.

The word that keeps cropping up again and again in my listening notes is 'cinematic'. There is no more suitable term. This setup delivers a sound that does justice to a bigscreen image – unforced, detailed and supremely fluid.

Insight and delicacy aren't cast aside in favour of brute strength either. Returning to *Super 8* as one of my favourite examples of huge sound effects rising from nothing, the Halos are absolutely at the top of their game. The filling station scene is a five-minute masterclass in what the Parasounds can do; the quiet effects of the gas pump and insects are conveyed with no sense of undue force, nor oversized, before the grunt needed to make you feel that police car move arrives on cue. Naturally, this sonic delivery benefits from the quality of the speakers used, but the Halos are likely to wring every last ounce out of whatever you wire them to without ever showing signs of strain.

This is not a sound that is the preserve of raucous action films either. Oscar-winning drama *American Hustle* showed a depth and detail that was a step up again from the Yamaha AVR on its own – and to reiterate, the Yamaha is talented in this regard. Voices are

crisper, incidental sounds are a little easier to discern and the front-to-back effects offer a greater sense of immersion. The peerless effects placement and believable soundstage that the Yamaha excels at is now being backed up by amplification that digs deeper, hits harder and has the headroom for any eventuality. It's never done in an obvious way, but when I switched the Parasounds out of the system, it was like shrinking the room, and the speakers, and leaving you with the standard presentation when you really want the deluxe screening and unlimited popcorn.

With there being a stereo amplifier here, the performance with two-channel music is something to be genuinely excited about. I stuck the Yamaha receiver in Pure Direct mode, let the A31 have a well-deserved rest and had the A21 running solo. The outcome was excellent with (almost) no qualifications – not 'good for AV' or 'useful to have', but something that is able to grab your attention and keep it held regardless of the music that you throw at it. At my most picky, I would argue that the A21 has some of the same effortlessness that the entire setup shows with film material, when I really want a little more bite and attack with my tunes, but I could happily live with this pre/power partnership and not feel short-changed by it. Multichannel music is similarly inviting, and while I'll always be a stereo fan at heart [*Blasphemy!* – Ed], the horsepower and refinement of the Halo duo makes five-channel listening a convincing experience.

The class of Class A/B

I have felt for some time that the area of greatest 'squeeze' in AV receivers has been in terms of the amplification. We want more bells and whistles, more licenses and more channels, but at the same price points from time immemorial. Given this near impossible demand, I think that AV receiver manufacturers have done amazingly well, but there is little arguing after listening to these slick power-pushers that really sublime Class A/B amplification doesn't come cheap.

Neither, however, does it go out of fashion. Once such amps are installed, they are a fixed point around which you can change the rest of your setup.

I'm aware that asking people to save money long-term by dropping over five grand in the short is a little odd. Also, you may well be the type of high-end AV player with the funds to spare anyway. So I'll just stress for a final time that the Parasound Halo A21 and A31 are awesomely talented. Living with them has witnessed an endlessly appealing combination of jaw-dropping grunt and dynamics with a warmth, even-handedness and general civility that means that – aside from their considerable dimensions – they are the definition of simplicity ■

SPECIFICATIONS

PARASOUND A21/32

POWER OUTPUT (CLAIMED): 2 x 250W/3 x 250W, into eight Ohms, all channels driven
CONNECTIONS: Phono and balanced XLR inputs per channel with adjustable trim. Looped outputs on A21
DIMENSIONS: 438(w) x 480(d) x 178(h)mm
WEIGHT: 28.2kg (A21); 29.5kg (A31)
ALSO FEATURING: THX Ultra2 certification; Auto turn-on/trigger start; relay-bypassed soft-start circuit; direct coupled design; complementary MOSFET driver stage and JFET input stage; independent transformer windings for each channel; attachable rack-mount brackets; also available in silver...

HCC VERDICT



Halo A21/A31

→ £2,400/£3,000 → www.parasound.co.uk
 → Tel: 0843 289 1254

HIGHS: Immensely powerful yet refined multichannel delivery; superbly built and styled; 2/3-channel setup provides a level of flexibility

LOWS: Very slight lack of excitement with music; cumbersome; slightly weedy speaker terminals

Performance ★★★★★
Design ★★★★★
Features ★★★★★
Overall ★★★★★



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Thanks to the twin tech expos of IFA and CEDIA running in consecutive weeks on either side of the Atlantic, Autumn is now the launchpad for all manner of AV hardware, from budget soundbars to high-end home cinema amps. **Mark Craven, Steve May and Martin Dew** report

NEW KIT EXPLOSION!



CES 2015 IS only a few months away, but global tech giants can't wait that long. First at the IFA Berlin show, and then just a few days later at the CEDIA Expo in the US, product launches have come thick and fast. The consumer electronics industry now mirrors the fashion trade – what you

see here can be considered the Autumn/Winter collection.

Naturally, HCC was present at both shows, and we've rounded up our favourite product launches, ranging from high-end Dolby Atmos processors and 4K flatscreens to laser projectors, Blu-ray players, reborn

hi-fi brands and – you've guessed it – curved soundbars.

Also, on page 34, we report on perhaps the best news of all – confirmation of a new 4K Blu-ray standard. Start saving some pennies for Christmas 2015, as that's when the sought-after new format should arrive...

BITS AND PIECES...

More tech news from IFA, CEDIA and beyond

Sonos ditches the Bridge

The multiroom audio giant has simplified its eco-system by ushering in a software update which enables a Sonos system to be run via a Wi-Fi network – meaning new customers no longer need to shell out for the hardwired Sonos Bridge. However, existing customers with the Bridge aren't advised to bin it. 'The dedicated Sonos network, which is only obtained through a wired connection to your router, remains the best way to ensure the most bulletproof experience,' says the company.

Bose revamps 'phones...



Bose is replacing its 'legendary' QuietComfort 15 cans with the new QuietComfort 25s, which sport a more portable design, improved noise reduction and a retooled EQ. Bose claims the latter results in a smoother frequency response across the audio band at all listening levels. Available now for around £270.

...and soundbase, too

Bose's Solo TV is famous for being the TV speaker that kickstarted the soundbase category back in 2012, but its chunky, squat form factor is beginning to look a little dated. Hence the need for the Solo 15, a larger model able to accommodate flatpanels up to 50in, but also sleeker in design. Priced at £400, it offers coaxial and optical digital audio inputs, an analogue stereo input and a rear-mounted bass adjustment knob to fine-tune the sound from its quintet of internal drivers.

SONY LOWERS COST OF 4K PROJECTION



As well as the VPL-VW300ES, Sony also showcased its new SS AC3 stereo speakers (left, with Sony's Eric Kingdon)

With zero competition from rival projector brands at IFA, Sony decided to compete against itself by launching the VPL-VW300ES, a slightly down-spec'd version of the brand's already remarkable VPL-VW500ES. At £5,500 it's the most affordable 4K/UHD projector yet.

In truth there's little to separate these sibling Sonys. Both feature the same low-noise chassis and crisp optics. There's no difference in picture processing either, as the newcomer similarly embraces the brand's mysteriously vague Triluminos colour processing and Digital Reality Creation engines. It can even cope with both digital cinema 4,096 x 2,160 resolution as well as domestic UHD.

When it comes to the price drop, it seems Sony has found a less obvious way to cut corners. There's no longer a dynamic iris to max-out contrast (no biggie, we usually turn that off anyway) and brightness is down from 1,700 to 1,500 Lumens (an undetectable difference in a light controlled dark room environment).

Certainly, demonstrations of the VPL-VW300ES were good enough to have us choking on our currywurst. Offering astounding levels of resolution, bold yet convincing colour performance and terrific dynamics, this projector redefines expectations at the £5K price point. For the unveil Sony had a crowd-pleasing showreel: on-pitch action from

the FIFA World Cup, shot in native 2,160p60, looked so vivid it was better than being there, while concert footage of Karmin performing on *Jimmy Kimmel Live* showcased deep blacks and contrast. And to prove this SXRD upstart has no problem handling moody cinematics, the opening sequence to the TV show *The Blacklist*, lensed in 4K, boggled with its levels of detail.

Features include two HDMI 2.0 inputs with HDCP 2.2 copy protection, plus a 2.06x zoom, lens shift and Active Shutter 3D support. On this showing, we reckon the VPL-VW300ES looks set to become pound-for-pound the best value model in home cinema projection.

KEF EMBRACES ATMOS

Those hunting for a Dolby Atmos speaker upgrade are now catered for by KEF's R50 add-on module, unveiled at CEDIA. Designed to partner the brand's R Series speakers, the R50s employ a Uni-Q driver (a 1in tweeter mounted coaxially with a 5.25in mid/bass cone) angled upwards in the wedge-shaped cabinet – rear speaker terminals are fed by a Dolby Atmos-enabled AV receiver, with the R50s output then reflected off your ceiling toward the listening position. These £600-per-pair speakers can, of course, be placed atop any existing speaker to build an Atmos array. KEF's brand development guru Johan Coorg told us the R50s will be in production by November. 'KEF's thing has been Uni-Q with its even dispersion off-axis,' said Coorg, 'so it lends itself amazingly to the Atmos spec.'





Jazz pianist and audio engineer Michiko Ogawa: a key part of the Technics Project



TECHNICS RETURNS!

One of the world's legendary hi-fi marques made a surprise return at IFA. Technics was relaunched by Panasonic as a high-end audio proposition with an ear to the hi-res future. The first new Technics kit to be launched in six years comprises a Reference system and upmarket Premium separates, and as befits a 2014 reboot, high dynamic range, low jitter and spacious imaging are all cherished objectives.

Fittingly, directing the Technics Project (as it's called behind closed doors) is a jazz pianist of renown. Michiko Ogawa, a former Technics audio engineer, took the lead earlier this year. 'I think the Technics team were looking for someone with musical involvement,' she says. 'I felt at the time, all my various careers inside the Panasonic company had led to this moment. It was my destiny.'

Intended to make a statement, the reference-class R1 system is unapologetically refined. It's led by the €14,000 55kg SE-R1 stereo amplifier, which features both XLR and phono inputs and a JENO (Jitter Elimination and Noise-shaping Optimisation) engine. Partnering it is the €8,000 SU-R1 Network Audio Control player, which introduces a newly developed Technics Digital Link transmission interface along with various noise isolation technologies. File compatibility includes 192kHz/24-bit FLAC, WAV, AIFF and DSD 2.8MHz. Completists can flank this duo with a pair of €18,000 SB-R1 floorstanders.

For the rest of us is the more compact Premium C700. It comprises the €1,400 SU-C700 amp, €1,100 ST-C700 network player, €1,100 SL-C700 CD player and €1,500 SB-C700 monitor-style loudspeakers. While both systems major on file replay, the Premium retains a CD option because the brand feel there's plenty of disc spinners still out there.

The driving force behind the new range will be a familiar name to regular readers. Chief Engineer Tetsuya Itani formerly masterminded Panasonic's BD player development. However, a passion for hi-fi led him to gather a group of like-minded engineers to work 'off-book' on a secret project in 2010. He told us that a meeting with *HCC* was partially responsible for the return of the brand: 'When I came to see you in 2010, you told me Panasonic was not an audio brand. It was a TV brand, a video brand. So when I went back to Japan I talked to my guys and we began thinking. While Viera and Blu-ray were getting stronger, Panasonic audio was getting weaker.'

Early demos of both systems are mightily impressive. The Premium C700 clearly has the chops to shake-up the mid-range market while the Reference system sounds breathtaking in its scale and clarity.

The Premium C700 system incorporates amp, network player, CD player and stereo speakers



LG PUSHES THE TV ENVELOPE, SAMSUNG PUSHES UHD CONTENT



Not got room for a 105in, 21:9 ratio Ultra Hi-Def TV (left)? Then settle for a 98in 8K model instead...



Perennial South Korean adversaries LG and Samsung offered IFA visitors the usual bravura display of extraordinary TV extravagance and engineering bluster. LG looked the clear winner of this big-brand clash, however, previewing its limited-edition Swarovski OLED panel and a lab sample 8K LED monster to those wielding secret backstage passes. Super Hi-Vision 8K prototypes are common currency at tech expos, but this is the first we've seen from LG's display division, and it

looked sublime. The company also showcased its 77in flexing OLED. When asked what the consumer benefit of a flexible OLED screen might be, LG's senior manager for TV product planning Howard Kim told HCC: 'Different types of content look better on flat and curved screens. If you're watching news or TV shows, then a flatscreen may be preferred. When you're watching movies, a curve might work better.' So now we know.

LG also debuted the 55EC9300, a 55in Full HD OLED

screen featuring the company's celebrated WebOS smart platform, and parked its incoming 65in and 77in 77EC980V and 65EC970V models on its stand.

By way of contrast, Samsung had little new hardware to show, but high-end displays already witnessed at CES still drew crowds. It did, however, make a number of content announcements. In addition to more streaming 4K services (Wuaki TV, Amazon Instant Video), it added *Need For Speed*

Most Wanted, *Real Football 2014* and *Golf Star* to its downloadable Games selection. Samsung also finally delivered its long-promised UHD 4K video pack promotion. Available to buyers of the HU8500 curved 4K telly, the Samsung-locked UHD media player contains 4K encodes of *World War Z*, *Night at the Museum*, *The Counselor*, *Star Trek*, *Star Trek: Into Darkness*, *Forest Gump*, *Life of Pi* and *The Book Thief*, plus a slew of documentary material.

OPTOMA UNLEASHES BRIGHT STAR

Although it already outed a raft of new projectors this Summer, including the HD50 reviewed last issue, Optoma has added another Full HD light-chucker to its stable.

The DLP-based HD36 claims to be a 'bright extension' to the brand's range, courtesy of a claimed 3,000 Lumens output that should see it well-suited to living room environments where ambient light control is an issue. Setup is aided by the provision of a 1.5x zoom, vertical lens shift and a 12V trigger port for automated systems. Additional connections include a single HDMI input, plus DVI and VGA support.



Optoma's HD36 claims a 3,000 Lumens output

The rated contrast ratio, made possible by Dynamic Black technology, is 30,000:1 – a reduction on the 50,000:1 of the HD50. Casual users will, however, appreciate the implementation of an onboard 30W speaker system, which can be fed externally by the PJ's phono or 3.5mm audio inputs.

Like other models in Optoma's home cinema line, the HD50 offers 144Hz 'rapid-refresh' 3D through the

optional ZF2100 system. The unit can also work with the company's (not bundled) WHD200 wireless HDMI transmitter. Pricing is £800 approx.

Mr Scott, energize! Who says you can't fly in an armchair: **the Excite 5.1 system.** All there is.



DYNABOARD

PANASONIC LETS 4K FLAGSHIP FLY



Panasonic's 4K range grew at IFA, and it also debuted a 'smart mirror' that can give you make-up tips...

3,000Hz backlight scanning (BLS) and advanced local dimming trickery, which effectively

Panasonic claimed pole position at IFA when it came to new screen reveals. Firstly, its long-teased AX902 UHD model was finally given form at the show. Hailed as the display which picks up picture performance from where its plasma division left off, this new flagship (available in 55in and 65in screen sizes) features a full-array (not edge) backlight with

reduces the halo effect traditionally associated with the technology. Few would argue that it looked spectacular.

If you need larger, Panasonic introduced the AX940; at 84in it certainly makes an impact. A 4K model using a panel more commonly seen on the brand's pro AV displays, it boasts 2,000Hz BLS, an HEVC decoder and HDCP 2.2 copy protection.

Perhaps the biggest Panasonic 4K surprise was the arrival of the entry-level AX630 series. While these screens support 2160p60 and HDCP 2.2, they lack an internal HEVC decoder, so consequently will need an external box for 4K content.

The company also revealed it will offer a firmware upgrade for owners of its AX802 screens, allowing them to spool Netflix 4K. Previously, it said this would never happen, but apparently a good deal of hard-nosed negotiation has solved the technical snafu responsible.

BITS AND PIECES...

More tech news from IFA, CEDIA and beyond

Philips embraces Spotify

Devotees of Spotify are being targeted by the Dutch marque with its SW700M and SW750M multiroom speakers. Priced at €100 and €150 respectively, the former features a pair of 2.5in full-range drivers; the latter uses a duo of 3in mid/bass drivers joined by two tweeters. Both offer a one-touch Spotify play button and Spotify Connect app control, and multiple speakers can be grouped together for whole-house music.

Onkyo heads back to base



The IFA-launched LS-T30 soundbase speaker is designed for larger and heavier high-end flatscreens – think up to 70in and 60kg. Hookups run to Bluetooth, 3.5mm, optical digital audio and phono stereo (with cabling provided). Within its MDF cabinet the Onkyo sports a quartet of drivers in conjunction with a down-firing 10 in woofer. It will retail for £350.

SAMSUNG CURVES ITS AUDIO, TOO

The IFA show also witnessed the launch of the 'world's first curved soundbar,' presumably because no one other than Samsung would even consider such a product line necessary. Crying out to be tucked underneath one of the brand's 'pringle' screens, the HW-H7500 is winging its way to retailers waving a £700 price tag.

The well-specced soundbar features Bluetooth streaming, a USB input for MP3, FLAC, WAV, WMA, AAC and OGG file playback, optical and HDMI inputs and an HDMI out. TVSoundConnect technology also enables wireless hookup to your Samsung screen if you have a cable phobia. Power is rated at 160W into an eight-channel driver array, with two of these side-firing to widen the soundfield. Another 160W resides in an accompanying subwoofer, which we assume won't be curved, but as it wasn't on show we're not 100 per cent certain.



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BITS AND PIECES...

More tech news from IFA, CEDIA and beyond

Parasound caters for power rangers

Got plenty of rooms in your house? Parasound has introduced a multizone 12 x 50W power amp. With bridgeable modes available and independent zone switching, the ZoneMaster Model 1250 claims to be a power pusher for multi-room applications. And, courtesy of those dozen channels, the 2U rack-space amp is also positioned as an ideal package to complement any Dolby Atmos processor in the setup of a next-gen home cinema, such as...

Acurus is in on the Act

...the Act 4 from US brand Acurus, which was showcased at CEDIA by Ted Moore, all-in-one co-founder, COO and CTO of the American corp. Manufactured in Indianapolis, the flagship 11.3-channel Act 4 home cinema command centre offers 8 x HDMI inputs and twin HDMI outputs. An impressive Dolby Atmos-licensed unit, with a colourful and straightforward front interface panel, it includes an embedded web server and control through its associated web app. The Act 4 will be available in February and will retail for US \$6,000. Representation in the UK will be via Genesis Technologies.

Toshiba widens its aims

It wasn't only the Korean brands flaunting 21:9 ratio screens at IFA – Japan's Toshiba joined in the widescreen fun with a prototype 105in 'Super Wide Ultra HD TV' with a 5K (5,120 x 2,160) resolution. The sheer size of the display wasn't helped by the addition of side-mounted speaker bars...

Of more immediate interest, the brand confirmed a new U Series 4K model (with traditional 16:9 form) to arrive in Europe next year, offering HEVC support, CEVO Picture processing and the MediaGuide replay feature of its 2014 Smart screens.

EPSON POINTS ITS LASERS AT 4K. SORT OF



Epson's new laser projectors and EH-TW6600W (inset)

Two new PJ offerings from Epson, with significantly larger footprints than its regular EH-TW models, caused a pleasant commotion at the CEDIA Expo in Denver, not least because pre-show info suggested native 4K machines were in the offing. Sadly, that wasn't the case – the custom install-focused LS9600 and LS10000 LCD projectors employ 1080p panels, but the latter debuts Epson's own '4K Enhancement' tech (which works in a similar fashion to JVC's e-Shift) to claim a sharper, up-rezzed image. More interestingly, both use a laser-driven light engine, as opposed to a traditional lamp; each will

therefore switch 'on' or 'off' immediately. 'It's more like a TV than a projector,' said marketing manager, Jason Palmer.

Lifetime expectancy of the light engine is 30,000 hours, while contrast is claimed as 'infinite', as no light from the laser means zero lumens – or 'as black as you can get', we're told. The LS9600 claims 1,300 Lumens; its bigger brother 1,500.

In a demo room on the CEDIA show floor, images were perceptibly bright (on an 11ft screen), detailed and contrast-rich. Both projectors can also achieve a DCI colour space (equivalent to professional digital

cinema), although no source material is currently available to support the feature. Motorized lens shift (both horizontal and vertical), a 2.1x zoom and lens memory are among the user-friendly features on offer. But with an \$8,000 price point for the LS10000, buyers will expect them.

The week before, at IFA, Epson confounded expectations by not launching a follow-up to its 2013 top-flight EH-TW9200W. Instead, it unleashed a trio of more affordable models: the EH-TW6600W and (non-wireless) EH-TW6600, and the 720p EH-TW570.

DARBEE GOES PRO WITH DARBLET

Joining its ever-popular Darblet (DVP-5000) standalone video processor, the palm-sized tool which analyses pixel depth cues to enhance picture contrast and detail, Darbee Visual Presence announced a brand new rack-mountable version for custom installers at the CEDIA Expo.

Adam Darbee, son of inventor and self-proclaimed 'janitor,' says of the differences in the new DVP-5100CIE: 'It has Phase

HD technology inside, which will allow the signal to be sent over a longer cable without signal loss, and a USB drive for field upgradeability and customisation.'

While the DVP-5100CIE retains the Hi-Def, Gaming and Full Pop options of its sibling, it doesn't add 4K support.

However, the company says it is working on 4K products and that while 2,160 images can be stunning, 'they are still flat...'



PIONEER RETURNS TO THE BLU-RAY HIGH-END

While the Blu-ray Disc Association was prepping us all for a 4K BD future (see p34), Pioneer used IFA to unveil a duo of high-end (regular) Blu-ray spinners – the BDP-LX88 and BDP-LX58 – that it believes capture the same design and performance ethos of its well-regarded 2008-era BDP-LX91.

Of the two new decks, it's the BDP-LX88 (pictured below) that is the most intriguing. Due to hit stores in December and costing a not-inconsiderable £1,300, it will seek to steal rack space from the likes of Oppo's BDP-105D and Primare's BD32. With that in mind, build quality aims to impress – the player uses a full-width, chunky ultra-rigid chassis with 3mm-thick iron-plate bottom, and weighs over 13kg. Internally, the power supply section and digital and analogue circuits are isolated in separate chambers.

Blu-rays can be upscaled to UHD resolution before being output over HDMI – there's a secondary HDMI out for split AV setups. Beyond video concerns, Pioneer woos audiophiles with support for high-res (192kHz/24-bit) FLAC, ALAC, WAV and AIFF files, as well as stereo and multichannel DSD, from USB or over a network; an onboard Sabre32 ES9018 DAC; and PQLS anti-jitter tech. 'Our expert engineers aimed for reference-level audio performance by optimally tuning the entire audio path and by selecting the best electrical/mechanical parts, down to the tiniest screws,' says the company.

The step-down BDP-LX58, which misses out on some of the sonic niceties of its stablemate (including balanced outputs and Precision Audio internal clock management system) is on sale now for £600.



The BDP-LX88 separates its power and digital and analogue circuits

Pioneer's high-end player will arrive in December



STEINWAY LYNGDORF SAVOURS THE ATMOS

If there was a prize for no-holds-barred swagger at CEDIA, it would go to Danish brand Steinway Lyngdorf, which showcased an Atmos/Auro 3D-capable surround system employing its speakers, amps and processor. The story behind this high-end audio marque is that piano behemoth Steinway & Sons approached audio guru Peter Lyngdorf in 2005 after a tip-off from a customer that his speakers could reproduce the sound of a piano with incredible accuracy. As Lyngdorf recalls, he travelled to New York and told Steinway. 'You choose a room, we'll reproduce a Steinway grand piano with our system. If you're happy with what you hear, we'll make a deal.' They were, he tells us, flabbergasted.

The new Steinway Lyngdorf Model P200 processor is the heart of the system, and took centre stage in a demo room in conjunction with digital amplifiers. Lyngdorf explained: 'From the processor,



The Model P200 supports both Atmos and Auro 3D surround formats

we control the power supplies of all the amplifiers. Only the power supplies are changed when the volume goes up or down. In fact, we don't really have power amplifiers. We have power, but it's the D-to-A converter driving the speaker.'

For this state-of-the-art setup, the company will control outright system design in a customer's home or studio in order to guarantee performance. No mix and match of components will be tolerated, which makes pricing any Steinway Lyngdorf product/system not only variable, but positively academic. The proprietary RoomPerfect analyzer in the P200 works to remove unwanted room imperfections – it might go without saying that the setup in a less-than-perfect hotel conference hall showed off a reel of Dolby Atmos demo trailers with impeccable clarity and transparency, a truly immersive soundstage, and thumping, accurate low bass.



AND FINALLY...

4K BLU-RAY IS CONFIRMED FOR 2015!

In a move designed to reassure early adopters that it hadn't been doing nothing since 4K TVs broke cover, the Blu-ray Disc Association (BDA) was in attendance at IFA to give us all the news we've been waiting for – confirmation of a 4K Blu-ray standard by next Summer and hopefully products in shops by the end of 2015.

'The Blu-ray Disc Association's board has agreed to add 4K/UHD specs to the Blu-ray disc specifications,' revealed Victor Matsuda, Chairman of the BDA's Global Promotions Committee, when we quizzed him.

'This is great news, especially for hardcore home theatre enthusiasts. We are looking for licensing to commence sometime in Spring or Summer of 2015. If we look at the roadmap for getting product to the market afterwards, that would put us on a scale – if everything transpires in a similar manner to the past – where the first products would hit the market in time for the holiday season.'

When we asked why it had taken so long to announce, Matsuda said: 'We want to make sure that what we're talking about has some substance, we want to make sure that we're getting it right.'

Of course, part of the delay in finalising specs is due to the additional features that this turbo-charged BD format will offer beyond a greater pixel count. 'We've always prided ourselves on being the best of the best,' explains Matsuda. 'So in this particular case the important thing is that it's about much more than just resolution as far as the Association is concerned. We're also talking about frame rates, we're talking about bit-depth, we're talking about HDR (High Dynamic Range), we're talking about the enhanced colour gamut. We're looking at all the other things I just mentioned as a total package when it comes to the 4K/UHD upgrade to the Blu-ray specification.'

Blu-ray bits and bobs

Kazuhiko Kouno is the chief engineer at Panasonic in charge of Blu-ray player development, and we spoke to him to nail down some of the details: 'The 4K Blu-ray specification supports 2,160p60 and 10-bit colour,' he revealed, suggesting that the specification would be largely BT2020 (aka REC.2020) compliant. Kouno also suggests that there is provision within the spec to accommodate HDR as and when there are displays capable of delivering it.

4K discs will use 4:2:0 chroma subsampling, although that's not to say the

players themselves won't offer 4:4:4 post-processing, as currently happens on Panasonic's BDT700.

The discs could be a mixture of two-layer 50GB and 66GB, and three-layer 100GB, depending on content requirements.

Ron Martin is vice president of the Panasonic Hollywood Laboratory (PHL) Contents Solutions Centre. Not only does he work closely with the Hollywood creative community, he also sits on the board of the BDA. He again confirmed to HCC that the spec for the next iteration of Blu-ray was now in place, but was less sure on a deadline.



'We're very close to final technology packages, the tool development. The end of next year is a reasonable target for us to hit, but it would also be a good target for us to miss. I'd

'People have different needs and wants. It's going to be a long time before packaged media disappears'

rather set that up and be a little late than keep delaying it.'

Will 4K Blu-ray be compatible with first-generation 4K TVs? Is HDCP 2.2 copy protection going to be an issue?

'Part of our manufacturing challenge is that we have to maintain backwards compatibility. If someone has a 4K TV they bought this year or last year, and it's only HDMI v1.4, the 4K Blu-ray player will detect that and will adjust the signal accordingly. If a studio produces a 2,160p60 movie but the player is connected to a v1.4 HDMI, then the player will do the conversion internally, giving you a 24p pulled-down version; the player will also do the translation for colour space and for dynamic range. We're not going to leave anyone not capable of playing anything. But the studios will control this.'

Martin also confirmed a data rate of between 50-70Mbps (by comparison, Netflix streams 4K at 15.6Mbps). HDR could be the real story of 4K Blu-ray, however, according to the PHL man.



'HDR, in real terms, will be the most significant breakthrough in picture quality since analogue to digital. Five years ago no one would have thought of a brighter theatrical display or television display, because we had backlights and plasmas that could only put out so much brightness. We're not just talking about a new type of display. It's a whole new signal, a whole new mastering format, a new production format.'

So is HDR more important than resolution when it comes to viewing experience? Yes, says Martin. 'The combination of the two, with the frame rates... we're getting very close to this thing in the '90s when we used to say HD was like looking out of a window. Well, it wasn't! But now we're getting to a point where you will have to do a double-take.'

Tackling the streamers

Considering that Netflix, Amazon and others will have been offering 4K streaming for over a year by the time 4K Blu-ray launches, the job of the BDA will be to make people understand the value of a physical media alternative. Here, Matsuda believes the AV playing field is big enough for everyone.

'There are different use cases, different types of content. I'm fine with watching old black-and-white *I Love Lucy* episodes on Netflix. But there are times when I want a really high-quality, really strong consumer experience – and I want it in an uninterrupted high-quality manner. I prefer that stable, high-quality experience that you get every time with a Blu-ray disc.'

'Whether it's in the home or on a mobile product, there are different needs and wants that service providers and content owners need to address. There's been a lot of experimentation. There's been a lot of efforts in regards to streaming and watching things on the go and stuff. I certainly see that it's going to be a long time before packaged media disappears, that's for sure.'

A name for the finished product still hasn't been chosen, according to the BDA spokesman; it will be conducting research into what might be appeal. 'It has to be consumer friendly and it has to encompass that it goes far beyond the notion of resolution,' says Matsuda. 'I also think we should take advantage of the Blu-ray name; the huge asset that we have been able to create for ourselves.' He also said he expects 4K Blu-ray to arrive fully-formed, avoiding the 'Profiles' that dogged Full HD Blu-ray in its early years ■

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UNLEASHING THE ROAR OF



The star of countless monster movies returns to home cinemas with the arrival of **Gareth Edwards'** Godzilla reboot. We chat to the director about continuing the Kaiju tradition

Godzilla is a cinema icon, so how did you approach bringing this character to the screen?

It's funny. At the start of the process I felt that in some way we could decide and control who Godzilla was. And a strange thing that came from it was that, as we went along, you start to realize that Godzilla was going to tell us who he was, just like actors who have their own take on their characters. We couldn't totally dictate what it was going to be. It was more

The original Japanese Godzilla roar... it seems to have been some sort of fluke where they had a double bass and – don't ask me why – they scraped a leather glove down it and got this unique [...] animal roar, and it was used over and over again in every movie. So it's become the iconic sound for him.

And, obviously, that was recorded in the fifties, and [we did] this in Dolby Atmos, so it wasn't an option to use that particular sound. We wanted to

GOODZILLA

about just trying different ideas and permutations. And slowly he revealed himself to us.

One of the conversations you get into with the animators quite often is they would say, 'If this was a real human, a real character, who would he be?' And after thinking about it for a while, the thing we came up with was that he was like the last Samurai. It was that idea of a lone, ancient warrior that would prefer to just not be part of the world if he could and be left alone, but events in the world force him to resurface.

It was very interesting, with all these ideas, even designing his look. We have a set of instinctive reactions to animals that have evolved over millions of years, and you try different things until you feel the right emotion when you see him. I wanted to get something that was very noble. And we tried the obvious things, like bear faces and dogs. But something that felt the most noble was a bird of prey, like an eagle. Eagles have their eyebrows very, very close to their nose, so we made his snout very high up, just near his brow line, and it gives him this look of nobility.

So, it was just trial and error. You try something and the strongest choice becomes clear, and before you know it, you've gone down this path and found Godzilla. I thought it was going to be an easy journey because, obviously, Godzilla has been in so many Japanese films. But, actually, it took us about a year to get the design right and to figure out his behaviour as well. Is he an animal? Does he fight just like an animal or has he got more of a human-like nobility to him? There was always a fine line between making him too animalistic and making him too human.

How did you design his trademark roar?

Erik Aadahl, who's one of the sound designers, really has the secrets about the roar. He won't actually tell me how he's achieved a lot of the sound FX because often these things are achieved through the most bizarre ways. They're not even animals sometimes.

update it. If you imagined that Godzilla was real, then what we hear in the 1954 film is just what it sounds like on 1950s' tape decks. We wanted to capture that live sound in its full power with all the fidelity we're capable of today. In the sound department there is a double bass and a leather glove, and I think they tried lots of different experiments.

And you played the roar on set for the actors...

Initially, that wasn't the idea. But what happened was we have a lot of scenes where a giant monster is over our main characters and they have to react to it. We'd already animated this stuff with pre-vis, and we could show the actors what they would be doing, where Godzilla would be and what the shots were for this scene, and they would understand.

But then, when we were filming, everyone's got different ideas in their head about the timing. So, to get the timing synchronized, you'd be shouting out direction through a microphone, 'Okay, he's coming! Okay, he's starting to appear! Back off, back off!' And >

Director Gareth Edwards [left] proved his love of bigscreen beasts with his 2010 low-budget debut *Monsters*



I found that me saying it was not giving the right reactions. So what I started doing is, I have an iPod with my pre-vis on it, which had all the sound effects on it as well, and I just put the microphone against the iPod speaker, so all these roars would come out at the right times. And it was really effective. You can tell the difference, I think, between the takes where there was no sound being played on set and the ones where we had Godzilla's roar blasting out.

Away from Godzilla, how did you approach the human element of the story?

For me, these sorts of movies, as exciting as they are, are not as powerful or effective if you don't care about the characters that are caught up in the event. So from day one it was important that we try and create characters that you can relate to. They're not superheroes or anything.

The sort of movies I grew up with, like the early Spielberg films, were perfection at weaving relatable human drama through these fantastic events. And we certainly harked back to that era of filmmaking when we were conceiving the movie.

In terms of revealing Godzilla, obviously you can create a story and then you can just lay Godzilla over it, and for some people that would work fine. But the real trick was trying to come up with characters who were affected by the events in such a way that their story became very much part of this movie. You know, there'd be thousands of stories to tell if this sort of event really happened, so for us, it was like looking at something like World War II and trying to find amongst all these millions of people the family or character that had the biggest emotional journey through it all. And that was very hard to find. It took about a year and a half to land on something that we felt was good enough, really.

And the film's main character, Ford Brody (played by Aaron Taylor-Johnson) acts as the emotional centre for the film...

The most important thing for me was that [Brody] is a kind of 'everyman' through the film. He plays this military guy, an EOD, bomb disposal guy, but I'm not a military person and I didn't want it to feel like this movie was about the military. It's really about a father and a son, who happens to be in the Navy. And Aaron, as an actor, has got a very soulful way about him.

We have a lot of visual storytelling in this film, and because of the action and events, there is a long period of time when no one really says anything. It's all told visually and with the sound and the music. So we needed someone who could convey how he's feeling just through his eyes. And I was really impressed with *Nowhere Boy*, where he played John Lennon. He gave a very soulful performance. I always felt like he was having a million thoughts every time you looked at him.

Also, he's a fellow Brit, so there's a shorthand. I would say it was nice to have a British actor on set, but he's kind of a bit method when it comes to his accent, and would talk with an American accent in between takes, which would throw me a bit.



Naturally, much of Godzilla's destruction was recreated via VFX

ICONIC SONICS!

Our favourite movie yelps, growls and bleeps

The Wilhelm Scream

First heard in the 1951 flick *Distant Drums*, this theatrical death yelp has since been used excessively by Hollywood sound staff. Listen out for it in now in various movies from Peter Jackson, Steven Spielberg and Quentin Tarantino.

Tarzan's yell

Weird fact: The legendary yell of Johnny Weissmuller's cinematic Tarzan – 'Arrgh-aaaayayya-yaaah-aaayaay-yaaaarrrgh!' – was registered as a trademark in 1998.

T-Rex's roar

This screeching cry crops up frequently in *Jurassic Park*, and was produced by recording the roar of a baby elephant and slowing it down, according to Gary Rydstrom, the audio noodler responsible.

R2-D2's bleeps...

Star Wars' R2-D2 has plenty to say, all delivered by a series of bleeps. Without subtitles, the only way of knowing what he is on about comes courtesy of C-3PO's frustrated replies.

...and lightsabers!

One of legendary sound designer Ben Burtt's best-known creations, the 'whoomp' – and crackle when two 'sabers come into contact – is so famous that Ewan McGregor couldn't stop himself mimicking it when filming *Phantom Menace*.



You've also got Bryan Cranston in the cast...

I'm sort of embarrassed how good our cast is. I feel like somewhere in the world there's a film without any cast because we had them all.

When I was casting *Godzilla*, I was kind of nervous about approaching all these actors because it's a monster movie and there are preconceptions people have with a movie like this. But I was keen and kept trying. With a lot of people in Hollywood, the way they steer their career is, 'Okay, I'm going to do an artistic film and then I'm going to do a commercial movie.' And for me, the idea was that commercial movies can be artistic. So I would tell them when I spoke to them, 'You should view this like it's a great drama and it just happens to have Godzilla in it.'

The thing with Bryan is that he's got so much experience. He's so good at what he does. I mean, I couldn't picture anybody else playing the role that Bryan played [Joe Brody]. And, strangely, it wasn't through *Breaking Bad*, it was actually from *Malcolm in the Middle*. It's not that this is a comedy performance at all; it's just that I think that comedy acting is probably harder sometimes than dramatic acting, and his ability and timing at comedy is so good. I used to think when I was growing up, 'Oh, if this guy got a chance at doing like a proper drama, I think he would knock it out of the park.' And, obviously, he did with *Breaking Bad*.

He can go from 0-100mph in one second. We'd be on the set and he'd be doing a scene and have us all tearing up and really crying around the monitor. And then, the second we finished, he'd crack a joke and we'd all burst out laughing and then we'd go for a second take and we'd all be crying again. He's pretty phenomenal like that.


The film's score is by Alexandre Desplat – what did you want to evoke with the music?

When you work on a film like this, the most inspiring thing to draw on is music. The first thing I ever do is create a playlist on my phone with the soundtracks that I've loved that I think have the right tone and quality for this film, as well as the sinister horror and darkness that was going to obviously come into play with *Godzilla*. There is a lot of haunting emotion to the movie. And Alexandre definitely got a high score on my playlist from his previous scores.

He was a bit of a hero of mine musically. So when it came to who was going to be our composer, I was just like, 'I want Alexandre.' I was going to put my foot down about this one. It was like, 'We're getting Alexandre. I don't care how we do it.' And, thankfully, he saw the previous film I did, and was very excited about working on *Godzilla*.

But, again, there's a preconception about what these big movies must be like and I think he was very keen, as well, to inject a lot of emotion into this. And the score is just stunning. I'm really excited. I can't quite believe not only having Alexandre doing the *Godzilla* soundtrack, he's done my soundtrack. It's like the most amazing gift I think I'll ever get ■

Godzilla is available to own on DVD, Blu-ray and Blu-ray 3D from October 27, courtesy of Warner Home Entertainment, and is reviewed on p98.



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What Hi-Fi? Sound and Vision,
August 2014



AV Forums 'Highly Recommended',
July 2014



Home Cinema Choice 'Best Buy',
July 2014



Former basement turned AV beauty



This stylish eight-seat cinema room began life as an unused cellar. The finished result mixes affordable AV with bespoke décor to remarkable effect, says **Mark Craven**



KIT CHECKLIST

OPTOMA: HD82 single-chip DLP projector
ONKYO: TX-NR727 AV receiver
SAMSUNG: BD-F8500 Blu-ray player
Q ACOUSTICS: 2 x Q2050 (L/R); 1 x Q2000Ci (centre); 6 x Q2020i (surrounds/rears); 4 x CT180 (surrounds/rears)
REL: R528 SE subwoofer; R218 subwoofer
LIGHTWAVERF: 3 x 4-gang black nickel light switches with Wi-Fi control
SCREEN: Custom-made by installer
SEATING: Sourced via owner from eBay – £250 each approx with recline/massage functionality

WANT TO MAKE sure your cinema room stands out from the crowd? Then take inspiration from this visually arresting makeover by Bristol-based AV installation outfit Blueberry Green, where the goal was to deliver a home entertainment space with design flair as well as quality performance.

The cinema has been carved out of a derelict cellar in a rural property. Blueberry Green had been engaged to do electrical, lighting and networking elsewhere in the property, and the owner wanted to know

'Lighting effects are used throughout the room to add a pinch of wow factor and highlight the design'

what could be done in the basement. The suggestion – a bespoke movie room and foyer area – was obvious.

The budget was relatively tight, considering it had to cover all building work, lighting/electrics, AV and décor – originally pegged at £17,000, but eventually rising to £22,000. 'The owner increased his audio budget,' reveals installer Steve Weaver. 'Mainly with REL subs.'

It's time to tank!

The room construction was a major undertaking, with the basement walls nothing more than exposed stone, and an unused lavatory and crumbling plaster ceiling completing the ramshackle feel, reveals Weaver. Therefore, tanking was necessary – applying a waterproof coating to the walls – before the stud walls, floor (with underfloor, touchscreen thermostat-controlled heating) and ceiling could be constructed. These were all fully insulated for both heat and sound.

To achieve the room's distinctive aesthetics – 'we didn't want to build a square box and put some speakers in it,' says the installer – angular 'pillars' are used on the walls and across the ceiling to break up the straight lines and divide the room into three sections. There are eight in total, the side ones finished with a travertine marble plaster to give the impression that they're hewn straight from limestone. This design element proved to be the tricky part of an otherwise quite straightforward project. 'The building of these was extremely challenging,' we're told, 'due to so many exact angles and the need for the front edge of both the ceiling and wall pillars to run perfectly from the floor on one side, over the ceiling and down to the floor on the other.'

Various LED lights are used throughout the space to add a good pinch of wow



The room provides seating for eight film fans

factor; some pick out the texture of the pillars, others help denote the separate areas. The ceiling lighting rig offers six different dimming patterns, while eight coloured light boxes are sunk into the walls for a contrasting impact.

All the lighting is controlled via an affordable LightwaveRF system, as the owner was adamant that he didn't want anything more elaborate in terms of system management. Everything is wired back to a central point allowing an upgrade to a fully-automated setup at a later date.

Everyday electronics

The hardware in this home theatre is far-removed from the AV exotica specified in much costlier professional installs. For instance, the speaker array uses models from Q Acoustics: 'We used these because we were tied to a very tight budget and they are about the best in that price range,' says Weaver. The setup is tailored to fit the lengthy nature of the room and the inclusion of three seating rows over five metres. The surround



Wall-mounted Q Acoustics Q2020i speakers are employed for the surround channels



The various lighting effects are activated via LightwaveRF controllers



The custom-made 16:9 projector screen takes up most of the front wall



The cinema room occupies a former unused basement. The property owner asked installer Blueberry Green what could be done with it...



Once he had his sights set on a dedicated home theatre, preparation began. After the clear-out phase, the room was tanked to ensure waterproofing

left/right channels each get four speakers (a mix of on-wall and in-ceiling models) to ensure a full soundfield. Meanwhile, the centre channel cabinet is mounted at an angle above the custom-made screen, to both create space for the largest screen possible and to project dialogue deep into the movie room.

Completing the system

An Optoma HD82 projector (a single-chip DLP model with Full HD resolution) is ceiling-mounted, with the rest of the AV equipment racked into the wall that divides the cinema room from the outer foyer area. Here, a mid-range Onkyo TX-NR727 AV receiver takes care of audio processing and power. Hi-def Blu-ray visuals arrive courtesy of a Samsung BD-F8500 player, which also brings the benefit of a class-leading Smart platform for video-on-demand.

The last key element of this room is the seating. There are eight chairs in total, décor-matching recliners, arranged on different-height plinths (each plinth has its own LED lighting effect) to retain line of sight to the projector screen on the front wall. Offering massage and recline functions, these were purchased by the owner via eBay, for around £250 each. Bargain! ■



The centre channel speaker is mounted above the screen, angled slightly downwards



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REVIEWS

→ **HARDWARE HIGHLIGHTS** PANASONIC 42in Full HD AS600 series TV & BD/PVR combi deck **NEAT ACOUSTICS** Motive SX surround sound speaker package **BENQ** Bargain-priced Full HD DLP projector **KLIPSCH** Soundbar/subwoofer duo with horn tweeter tech **JL AUDIO** American-made high-end cinema subwoofer **PHILIPS** A 55in Ambilight 4K TV for only £1,500... **AND MORE!**



Atmos antics

Onkyo's TX-NR838 receiver gives us our first chance to sample domesticated Dolby Atmos. See p50

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

46 PANASONIC TX-42AS600 → Approx £430

The Panasonic's svelte styling belies its affordable price tag

AV INFO

PRODUCT: 42in Full HD TV with Freetime support and My Home Screen Smart interface

POSITION: Roughly at the centre of Panasonic's HD TV range despite its affordability

PEERS: Samsung UE40H6400; Sony 40W605

SWORD PLAY

Sequel 300: Rise of an Empire cuts a dash on Blu-ray, p96



This 42in Full HD set costs less than £500. How things have changed, marvels **John Archer**

A sign of the 4K times

THIS YEAR WAS always likely to be a tricky one for Panasonic in TV terms, without having its ever-reliable plasma division to woo film fans. And to be honest it's lived up – and down – to expectations, with the brand so far delivering a slightly untidy mix of hit-and-miss LCD sets.

That's the bad news. The good news is that the TX-42AS600 on test here is definitely one of Panasonic's 2014 'hits'.

Let's start with the price tag. At £430, this is eye-catchingly affordable for a TV that's not even from the bottom end of Panasonic's current range. Yes, it's a mere 42in and only a Full HD resolution – bigger screen sizes and 4K resolutions have changed the market considerably – but it can still form the centre piece of a smallscale cinema setup.

It also delivers instant shelf appeal by not looking at all like a bargain-priced telly. Panasonic has endowed its AS600 series with an on-trend super-slim bezel, and there's a bold contrast between the silvery trim of the bottom edge and the glossy black finish applied to the other three sides.

Connections are solid. A trio of HDMI's, two USBs and both Ethernet and integrated Wi-Fi options make up the most important stuff.

Those network connections enable streaming of video, photo and music files from networked DLNA-capable devices, and access to Panasonic's online service. The highlight of the latter is the integrated Freetime system. Also found higher up Panasonic's 2014 range, this brings catch-up services for all the main UK terrestrial broadcast channels via an EPG guide that can be scrolled back in time as well as forward. For any technophobes worried about not being able to get their heads around a normal video-streaming hub, Freetime is a dream come true.

This isn't the only way Panasonic works hard to make potentially complicated things

simple. I'm also a fan of its My Home Screen interface, which allows personalisation of the set's home page to contain only the content links you want.

Rounding out the TX-42AS600's Smart sophistication is My Stream, which highlights content based on analysis of your viewing history; and the TV's ability to be used in conjunction with an Android/iOS app that makes it easier to both control the set and share content between devices.

VA is for victory

From a picture quality point of view, the first thing to say is that the TX-42AS600 doesn't support 3D playback. It does, though, carry a 100Hz motion reproduction system which is driven – along with other processing-based aspects of picture reproduction – by a dual-core engine. By far the best bit of news about the TX-42AS600, though, is that it uses a VA-type LCD panel rather than an IPS one.

The struggles of IPS panels to deliver a good black colour has been painfully exposed this year by the black level improvements of rival VA-style panels – and unfortunately many of Panasonic's 2014 TVs have used IPS.

The appeal of a VA design can be appreciated the instant you feed the TX-42AS600 any predominantly dark image. As Batman is mercilessly pummelled by Bane in the gloom of the villain's underground lair, for instance, the darkness of the walls around him suffers impressively little with the misty grey look associated with low-contrast LCD TVs. There's more shadow detail in Batman's >

No touchpad remote here – just a standard zapper





The screen offers a good contrast performance

suit and the walls, too, helping the scene enjoy an expansive sense of depth.

Furthermore, deeper, more natural black colours mean dark hues of red and green appear more believable than they tend to on low-contrast displays.

And, as you don't need to remove as much brightness from images to optimise black levels on the TX-42AS600, lighter areas of dark scenes can retain more brightness – the overall experience is more dynamic. This

For any technophobes trying to get their heads around catch-up TV, Freetime is a dream come true'

is especially clear in the scenes in *The Pit* in *The Dark Knight Rises*, particularly with the shots looking up from the bottom of The Pit at the daylight above.

Moving away from the contrast advantages of the TX-42AS600's VA panel, a run-through of *The Amazing Spider-Man 2* (Blu-ray) reveals it to be capable of producing impressively bold colours. It captures HD detailing from Blu-rays and good-quality HD broadcasts very well, too, with minimal noise and no sign of forced edging or fizzing noise over areas of ultra-fine detail. Obviously, I'm not talking about anything to rival 4K/UHD displays, but if you were hoping to get 4K for this price you're living in dream land. For now, anyway...

Poetry not in motion

The aforementioned strengths are enough to help the TX-42AS600 stand out from this year's often lacklustre budget TV crowd. But this Panasonic is, inevitably, not perfect. The most obvious problem is that the crisp look to HD images reduces during action

scenes, as the set loses quite a chunk of resolution over moving objects. It does, at least, keep a decent lid on judder by sub-£500 standards.

It's a rather average handler of standard-definition material, too – colours end up lacking finesse following the upscaling process. Finally, while I'd recommend that you leave the 42AS600's 'adaptive backlight' feature on (at its lowest power setting) to get rid of some minor traces of backlight clouding visible during very dark scenes, this feature does occasionally cause some slightly distracting 'jumps' in the

image's overall brightness. Having said that, these luminance leaps are neither as common nor as aggressive as those I'm increasingly noticing on IPS panels, where such contrast-boosting tools have to work that much harder to combat the lack of native contrast.

The main arguments used to justify using IPS panels in modern flatscreens are that they deliver a markedly wider viewing angle and produce a more video-friendly colour palette. However, while it's true that the TX-42AS600's images start to lose contrast and colour saturation from narrower viewing angles than a typical IPS panel would, the difference isn't great enough to upset me. And while good IPS TVs may look marginally more balanced with their colour reproduction overall, this is countered by the better contrast and natural dark tones on offer here.

Sonically, the TX-42AS600 is somewhat hamstrung by its slender form factor. There's a lack of bass from the 2 x 10W speaker array that, with my *Batman* Blu-ray, leaves Bane's growling voice sounding less menacing and reduces the impact of explosions and other large soundstage moments. However, the bass shortage doesn't cause trebles to become too exposed and harsh at the other end of the spectrum, and the mid-range is strong enough to both maintain vocal clarity under duress and propel the soundstage a surprising distance away from the physical confines of the chassis.

Value proposition

The motion softness the 42AS600 suffers with, in particular, means it would struggle in a shootout with higher-spec flatscreens. But at the same time Panasonic's decision to turn to VA LCD technology has helped it construct a great-value TV that's a no-brainer for second-room use and could also comfortably pass muster as a main system display if finances are tight ■

ON THE MENU



→ A major string in the Panasonic's Smart bow is the inclusion of Freetime, enabling idiot-proof catchup TV streaming of the five UK terrestrial channels

SPECIFICATIONS

3D: No.
4K: No.

TUNER: Freeview HD

CONNECTIONS: 3 x HDMI inputs; 2 x USB; RGB Scart; component video input; RF input; built-in Wi-Fi; Ethernet port

SOUND: 20W stereo

BRIGHTNESS: N/A

CONTRAST RATIO: N/A

DIMENSIONS (OFF STAND): 947(w) x 552(h) x 53(d)mm

WEIGHT (OFF STAND): 12kg

FEATURES: 100Hz Backlight Blinking; My Home Screen interface; TV Anywhere system; Freetime built in; Smart Viera app access; Panasonic TV Remote 2 app support with 'swipe and share' tech; My Stream content recommendation system; Dynamic/Normal/Cinema/True Cinema/Custom presets; dual-core processing engine; DLNA/USB media file playback

HCC VERDICT



Panasonic TX-42AS600

→ £430 Approx → www.panasonic.co.uk

→ Tel: 0844 844 3899

HIGHS: Good, contrast-rich picture quality; decent value; Freetime is a welcome Smart TV addition; unobtrusive design

LOWS: Some motion blur; standard-def colours look a little basic; some strong competition at this price level

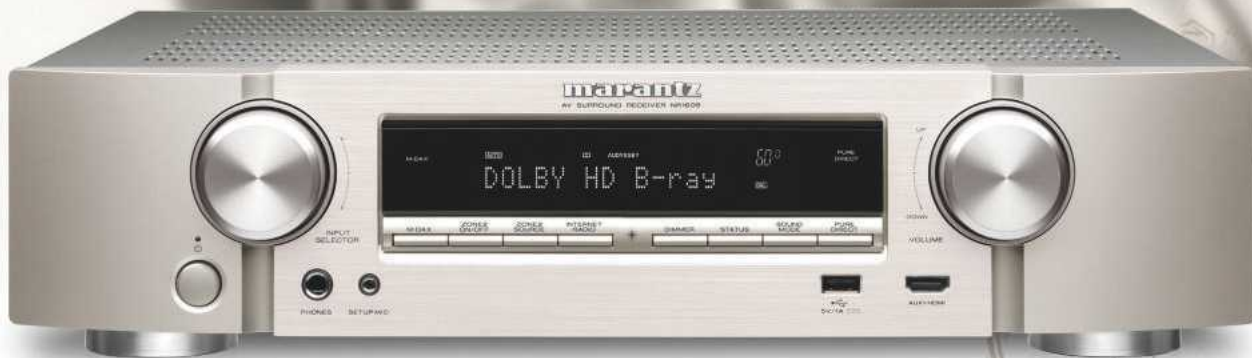
Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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Onkyo lands the first Dolby Atmos AVR for the home. **Steve May**'s ears prick up

The revolution begins here

WITH APOLOGIES TO Tom Cruise, welcome to the edge of tomorrow. Dolby Atmos, the sound system which has taken theatrical audio to another level courtesy of object-based design and metadata-driven image placement, has migrated to the home, and nothing will ever sound quite the same again.

By the end of 2014, you can expect to see Dolby Atmos-ready AV receivers from the majority of AV audio brands, but the first to arrive on our test bench comes from Onkyo. The £1,000 TX-NR838 is an upper-class proposition, strategically positioned above the brand's TX-NR737 and entry-level Atmos-ready TX-NR636 models. It's a seven-channel design capable of delivering either extended 7.1 surround or a 5.1.2 Atmos soundstage (the last two numbers refer to the Atmos channels). As befits its price, the overall spec is good and it's not short of muscle. Onkyo rates the power output at 150W 'Dynamic' into eight Ohms, or 130W with all channels driven. I rate it meaty enough to easily drive the average room.

The receiver is 4K-friendly, courtesy of four HDMI 2.0 inputs, and offers HDCP 2.2 (High-bandwidth Digital Content Protection) support on Input 3 (labelled STR/DVR), although this couldn't be checked for obvious reasons. Beneath the lid lurks a Silicon Image SiL9679 HDCP 2.2 chipset which handles 2160p up to 60fps with 4:2:0 chroma subsampling.

Get to the speaker binding posts and things are intriguing. In addition to the standard L/C/R terminals you'll find Surround and Surround Back options, plus Height and Width. As this model only offers seven channels of power, not all can be driven at the same time; you need to choose your preferred configuration. It's not possible to implement a dual seven-channel and Atmos home cinema layout.

The TX-NR838 is network savvy. In addition to Bluetooth, there's Spotify Connect, Deezer, Airplay, internet radio and local LAN media

playback (audio only). In addition to Ethernet, the AVR has integrated Wi-Fi, so getting online should not prove problematic.

However, it's the Dolby Atmos performance which is of prime interest. Short story long: Atmos is the most significant development in home theatre since the introduction of Dolby Digital 5.1, elevating the listening experience (literally) to a new level and relegating previous height and width adventures with Pro-Logic IIz and Audyssey DSX to interesting diversions. But implementing it successfully is no cakewalk. Long story short: for serious home cinemaphiles there are issues to address.

Much depends on your home cinema layout. My theatre happens to be a dedicated room with in-wall and in-ceiling speakers arranged in a traditional 7.2 configuration. On paper at least, it's a relatively straightforward task to re-purpose two in-ceilings to accommodate the 5.1.2 output of the TX-NR838. In practice, though, a number of issues become apparent.

It's demo time!

Dolby Atmos-encoded software is rather thin on the ground at present. Indeed, for this audition I had only a demonstration disc to play with. However, it contains all the various theatrical idents used in Atmos cinemas (including *Amaze*, *Leaf* and *Conductor*), in addition to a short Red Bull F1 promo and *Bailando*, a dance track from Enrique Iglesias. Not a lot to go on, but these are early days.

The first surprise was discovering just how much better the system sounds with reflective speakers delivering the height ambience,



The TX-NR838's handset is refreshingly button-lite

AV INFO

PRODUCT:

£1,000 seven-channel Atmos AV receiver

POSITION:

Middle of Onkyo's Dolby Atmos range

PEERS:

Denon AVR-X4100W; Pioneer SC-LX58; Yamaha RX-A2040



ONKYO'S SKH-410s

These Atmos add-ons are small, but still impress

With Onkyo offering a pair of these up-firing speakers for free with the TX-NR838 (until the end of October) it seemed logical to use them in our review. With a retail price of £130 for two, it's obvious that these aren't a high-end proposition, but – and with nothing else to compare them too – it's clear they do the job intended, and their portability proved useful during system setup. Each speaker features a single, angled 3.25in paper cone driver, and is supplied with rubber feet to stop them damaging any speaker that you may mount them on.





compared to in-ceilings. The latter proved too directional, localizing the audio sent to the height channel in a way that was often distracting. While it would be presumptuous to rule out in-ceilings altogether (I suspect I'll find a subliminal output level that convinces, alternatively a 5.1.4 configuration may be more suitable), it became apparent that Onkyo's dinky SKH-410s were doing a better job. These have an angled driver designed to bounce audio off the ceiling (2.4m high in my room), aided by some complimentary processing in the AVR.

The positioning of these boxes provides its own challenge. It's widely envisaged that they'll be positioned atop the front stereo pair. In my

'I believe the days of buying a non-Dolby Atmos-enabled AV receiver are drawing rapidly to a close'

room, that wasn't an option. However, simulating the position with the little Onks on loudspeaker stands didn't appear to work. With my prime listening position approx 4.5m away from the L/C/R, it was clear they were too distant for any sonic reflection to be effective. Yet bringing these speakers to within 2m of my listening position made a dramatic difference.

The Dolby Atmos soundstage itself is quite unlike traditional 5.1. Although we talk blithely of height channels, there's not a sense of tiered audio. Image placement is simply more realistic. The effect is not unlike wearing good headphones, albeit without the physical sensation of earcups. When a mosquito buzzes at the start of the forest clip *Amaze*, the insect appears to dance around your head, moving on an unpredictable vector; then an exotic bird does a complete and seamless fly-around. When the thunderstorm breaks, the LFE rumble is prodigiously deep, before rainfall appears to engulf the listening room.

Leaf, the ident used to preface *Brave* (the first Atmos-encoded movie to be released

theatrically), is similarly immersive. A twig crisply breaks to your front right, sending the titular leaf on its downward spiral; you can almost feel the air pressure as it moves around the soundstage, before landing with a deep bass ripple front-left. I played these clips endlessly for days, and never stopped grinning.

Sonically, the TX-NR838 is very adept, capable of crisp, delicate nuance and tumultuous drama. In stereo mode it's surprisingly articulate, thanks in part to some lovely Burr-Brown 192kHz/24-bit DAC magic. It revels in unplugged sessions and light classics alike; in straight multichannel mode it's a rock-solid actioneer. Add Dolby Atmos to the mix and it becomes even more extraordinary.

The TX-NR838 can also upmix 5.1 content. Confusingly this process is simply labelled Dolby Surround in the menu (nomenclature decided by Dolby itself). Quite how convincing said upmixing is versus a native Atmos mix remains open to debate, although the simple expedient of using the Atmos channel with 5.1 content appears to add spatial depth.

The only catch, of course, is that the physical arrangement I landed upon as optimum for Atmos performance is not something that would work in most homes. Having reflective height speakers positioned almost mid-room is impractical. Conversely, I suspect that an Atmos 5.1.2 configuration in a smaller space is not only going to work well, but will be easier to set up. I can't vouch for what will happen if you have artex, though, and woe betide you if your ceiling has any sort of Atmos-killing acoustic treatment.

Delightful debut

Even without Dolby Atmos compatibility, this Onkyo would be a formidable sonic proposition. Design, features and performance are all solid. However, in full Atmos guise it thrills with extraordinary precision and presence. On the strength of the Onkyo TX-NR838, I predict the days of buying a non-Dolby Atmos-enabled AV receiver are drawing rapidly to a close. The future of home theatre begins here. The trick will be learning to live with it ■

ON THE MENU



→ Onkyo's menu system sports a functional but clean design. System configuration is aided by room layout graphics, which include a replica upfiring speaker...

SPECIFICATIONS

DOLBY ATMOS: Yes
DOLBY TRUEHD: Yes
DTS-HD MASTER AUDIO: Yes
THX: Yes. Select 2
MULTICHANNEL INPUT: No
MULTICHANNEL OUTPUT (CLAIMED): 150W, eight Ohms 'dynamic', 130W with all channels driven
MULTIROOM: Yes. Two additional AV zones
AV INPUTS: 3 x composite; 5 x digital audio (3 x optical and 2 x coaxial)
HDMI: 7 x inputs; 2 x outputs (v2.0 and v1.4)
VIDEO UPSCALING: Yes. To 2,160p
COMPONENT VIDEO: 1 x input; 1 x output
DIMENSIONS: 435(w) x 400(d) x 198.5(h)mm
WEIGHT: 15.5kg
ALSO FEATURING: AccuEQ auto-calibration system; Bluetooth; integrated 2.4GHz Wi-Fi; Ethernet; USB; Spotify Connect; internet radio; AM/FM tuner; HDCP 2.2 copy protection; QDeo video processing; twin LFE outputs; IR input; 12V trigger output; RS232 port; Burr-Brown 192kHz/24-bit DAC; 4 x DSP gaming modes; GUI overlay on HDMI; PLL (Phase Locked Loop) anti-jitter technology; seven-channel phono output

HCC VERDICT



Onkyo TX-NR838

→ £1,000 Approx → www.onkyo.co.uk
 → Tel: 08712 001996

HIGHS: Immersive Dolby Atmos performance; four 4K/60p inputs; good network specification with Bluetooth; HDCP 2.2 copy protection
LOWS: No support for dual-band 5.6GHz Wi-Fi; Atmos configuration takes time to tune; you'll need to sacrifice conventional 7.1 to go 5.1.2

Performance ★★★★★

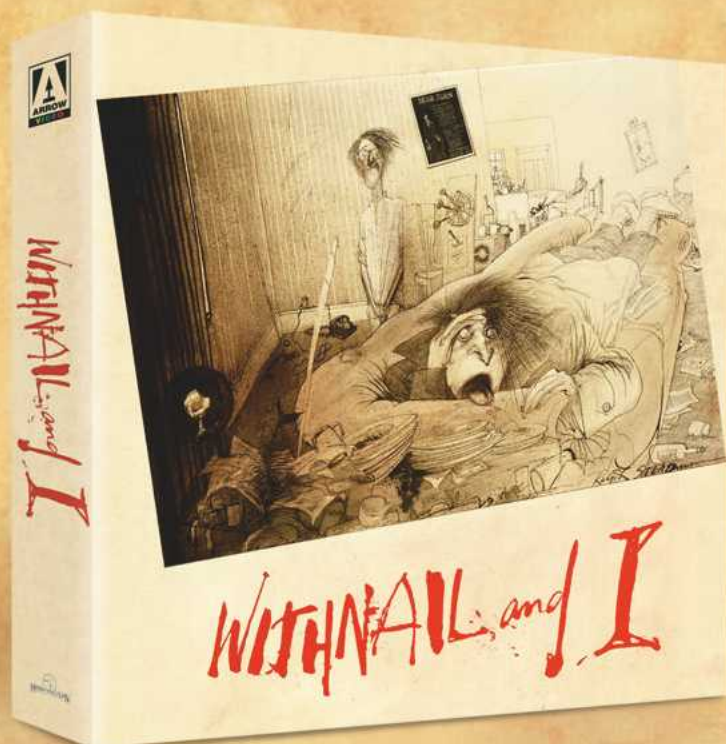
Design ★★★★★

Features ★★★★★

Overall ★★★★★

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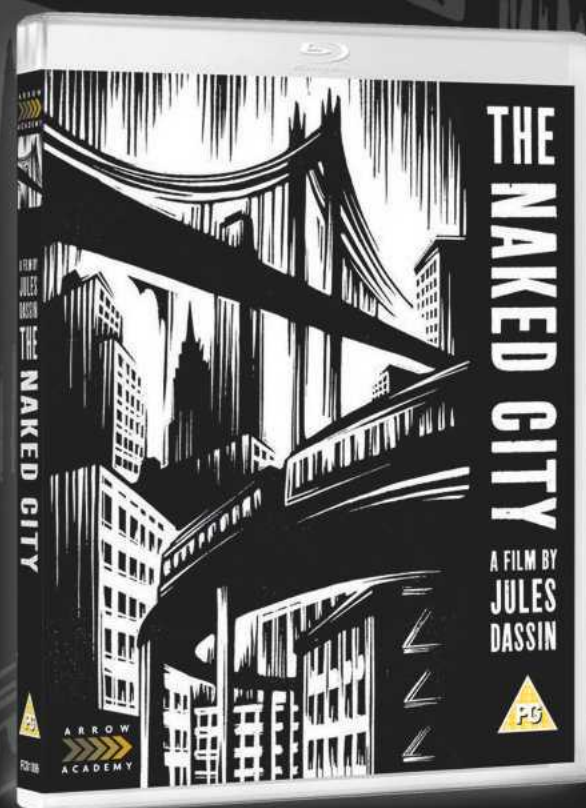
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Looking for compact speakers that sound anything but? **Ed Selley** thinks you should look no further

Honest Motives

NEARLY EVERY MAJOR speaker maker offers a five-channel package, so what can possibly be gained from wandering off the beaten track and choosing an offering from a smaller brand? Quite a lot, actually.

AV INFO

PRODUCT:
Slim-enclosure 5.0
speaker array

POSITION:
The entry point into
Neat Acoustics'
speaker range

PEERS:
Tannoy Precision 5.1;
Monitor Audio Silver
6AV12;
Bowers and Wilkins
683 Theatre

Smaller companies frequently have a different way of going about things, and it may be that their approach is the one that best matches your personal tastes. In the case of Neat Acoustics, the Durham-based outfit has a distinctive method to voicing its speakers, which is almost entirely predicated around extensive listening to a wide variety of genres rather than a measurement-based process. This should not be taken to mean that the speakers have been created by means of a 'short cut', though – in the case of the larger models in particular, their design complexity should point to Neat knowing its way around the serious engineering side of things.

Neat hopes to create speakers that function in a consistent way almost regardless of the room. The Motive SX range is an updated version of the original Motive series and is the smallest complete range in the brand's line-up. This setup comprises a pair of the SX1 floorstanders, a pair of the SX3 standmounts and an SX-C centre speaker.

There is no subwoofer here. Neat doesn't build bass bins, and the company is exclusively passive in terms of output. I'm not suggesting for a moment that you run 5.0 – the market of dedicated subwoofers from the likes of Velodyne, REL, SVS, Paradigm and JL Audio exists for a reason.

Revamped tweeters

All the speakers are built around varying complements of the same two drivers. The first is an anodised aluminium tweeter with an inverted dome. This replaces the titanium example in the older models and is intended to offer a much-improved high-frequency response. This is partnered with a 5.25in mid/bass driver that continues almost unchanged from the previous models. The two drivers are handled by a revised crossover, built around some rather high-end components such as Mundorf capacitors.

Neat has built the SX-C centre channel as a sealed cabinet, which allows for fairly unfussy placement. The SX1 floorstander is more unusual, in that it is fitted with a

Time alignment concerns mean the SX1 floorstanders lean back





Each speaker uses a 1in inverted aluminium tweeter

downward-firing port (meaning that the plinth is both fixed and entirely necessary) and the whole cabinet is angled back to assist in the time alignment of the drivers. The speaker is happiest when placed on a solid rather than suspended floor.

The two-way SX3 standmount speaker is rear-ported.

The Motives are attractive in an understated sort of way. If you are after lacquered cabinets and chrome detailing, these probably aren't for you. There's something old-fashioned and, well, hi-fi about their appearance. The sensible dimensions (just 160mm wide) will go down well in many rooms, though.

One slightly disappointing aspect of this multichannel pack is that the centre cabinet is only available in black meaning that a matching set of speakers can only be had in the same slightly austere finish – a shame as some of the wood options are rather tasty.

Another aspect of Neat's design that needs to be taken into account is that these speakers place some demands on your amplification. With sensitivity in the mid 80s and an impedance of 6 ohms, they are not ridiculously insensitive, but it will show up if your partnering AVR is a bit short of puff. The Motives were happy on the end of a £2,000 Yamaha receiver, but I'd be lying if I said they didn't relish the additional horsepower from the Parasound Halo combination also tested at the same time.

In at the deep end

It is worth pandering to the Motives, though. In many ways these are singular speakers that do some slightly unexpected things. First and most immediately, for relatively compact designs, the scale and sheer impact that they have is genuinely surprising. The SX1 claims a frequency response down to 25Hz and while I don't doubt there is considerable

roll-off by that point, it still means that this slender floorstander packs a mighty punch. This in turn allows the subwoofer you employ to concentrate on authentic subsonic frequencies.

The lower midbass proffered by the Neats positively teems with energy – the roar of 1970s race engines in *Rush* is absolutely intoxicating. And with the cheerful insanity of the final runway scene in *Fast and Furious 6*, the Motives make as much sense of the lunacy on screen as they can, keeping dialogue clear and well defined above the roar of jet engines and general silliness. The Motives don't go in for forensic detail, but instead give a comprehensible and natural picture of the whole event. They remain civilised under all but the most abusive uses of the volume control and even when they do harden up, they do so with as much grace as they can muster. It is likely that you will run out of amplifier before you really get any harshness out of them.

Spend a little time with the Motives and you realise that in all senses of the word, their integration is peerless. The crossover between tweeter and midbass is imperceptible and the movement of sound from speaker to speaker is smooth and consistent. Compared to the almost holographic (and only fractionally more expensive) Tannoy Precisions that I reviewed previously, these slimmer speakers don't possess the same front-to-back depth and they craft a far more definite 'sweetpot.' However, the resulting payback in terms of speed and impact is enough to win me over.

A final trump card is a predictable one. From a company that first and foremost deals in the world of two-channel, Neat's SX1 floorstander is excellent used in this manner. Its potent low-end extension works wonders with bassy material, and the entire package is magnificently rich, powerful and exciting. If your interests divide equally between movies and music, these speakers do exceptionally well at meeting those dual requirements.

Solid all-rounders

Indeed, for all-round ability these speakers take considerable beating. I have tested much bulkier and ornate packages that have been less able to fill a room with such a full-bodied soundfield. There is no question that this ability comes with some caveats – as said earlier, the Motives require hefty amplification and some will want a design that looks more in line with the £3,675 price tag, let alone the option of a finish other than black.

In a darkened room, though, the latter is of no consequence and if you budget accordingly for a bit of muscle to drive them, the former is hardly insurmountable either. So if you work with them, the Neat Motive SX 5.0 array makes for an entertaining sonic solution ■

SPECIFICATIONS

MOTIVE SX1 FLOORSTANDER

DRIVE UNITS: 2 x 5.25in polypropylene midbass cones; 1 x 1in inverted aluminium tweeter

ENCLOSURE: Downward-ported

FREQUENCY RESPONSE: 25Hz-30kHz

SENSITIVITY: 87dB

POWER HANDLING: Not specified

DIMENSIONS: 160(w) x 925(h) x 200(d)mm

WEIGHT: 14kg

MOTIVE SX3 STANDMOUNT

DRIVE UNITS: 1 x 5.25in polypropylene midbass cone; 1 x 1in inverted aluminium tweeter

ENCLOSURE: Rear-ported

FREQUENCY RESPONSE: 45Hz-30kHz

SENSITIVITY: 86dB

POWER HANDLING: Not specified

DIMENSIONS: 160(w) x 325(h) x 200(d)mm

WEIGHT: 6kg

MOTIVE SX-C CENTRE

DRIVE UNITS: 2 x 5.25in polypropylene midbass cones; 1 x 1in inverted aluminium tweeter

ENCLOSURE: Sealed

FREQUENCY RESPONSE: 50Hz-30kHz

SENSITIVITY: 86dB

POWER HANDLING: Not specified

DIMENSIONS: 470(w) x 160(h) x 200(d)mm

WEIGHT: 10kg

HCC VERDICT

Neat Acoustics Motive SX 5.0

→ £3,675 approx → www.neat.co.uk

→ 01833 631021

HIGHS: Powerful, cohesive and exciting sound with music and film; usefully compact

LOWS: Require plenty of power; centre channel only available in black; you'll have to budget for a separate subwoofer

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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Baby 'zilla

Adam Rayner discovers that even an entry-level JL Audio subwoofer offers the kind of monster performance your home cinema deserves



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AV INFO

PRODUCT: 12in home cinema subwoofer

POSITION: One of two E series models (the other uses a 10in driver)

PEERS: REL 528SE; Velodyne SPL 1200 Ultra; Paradigm Studio Sub 12

JL AUDIO'S FACTORY in Florida is set up a bit like a cottage industry. Small departments beaver away feverishly on individual products, in their own little production areas. In one of them resides a frankly enormous machine, armed with cutting teeth tipped with industrial-grade diamonds – and it eats these like candies, at a rate of two a week. The machine is employed to cut through the two-inch resin and carbon fibre composite of the brand's subwoofers, a material so rigid and tough that it takes four passes around each hole. In the hulking body of its flagship (which is called Gotham and looks like Batman thought it up), there are two giant holes to accommodate its dual 15in drivers.

UK subwoofer fans will struggle to get their hands on the Gotham. European standby power regulations are hindering its arrival, I gather. So it's necessary to step down a notch on the product ladder. Previously we've reviewed the Fathom series; auditioned here is the 12in model from the new E series.

Trickle-down technology

JL Audio's home woofers all run technology developed for its flagship automotive W7 transducer. So in this, the E-Sub e112, you get a filtered-down, best price possible application of the same driver that lurks in its bigger subs. We would all love a detached outbuilding and four Gothams, but it's good to know that in the real world, the speed, grip and drop of the W7 heritage can be had for an 'entry-level' price.

Entry-level? Okay, perhaps not. At £2,050, the E-Sub is at the top end of what many UK buyers would ever consider spending on their LFE needs. So what does your outlay get you? A lot of power to play with, certainly. This single 12in woofer has a 750W RMS amplifier to drive it. And that's just for one of the coils – the other also has a 750W RMS amp, running on the same switching power supply. So that's 1,500W as potential top power, and a sub bass system that truly shows a driver-maker given free rein.

The rear connections bear witness to the company's car audio roots, with quick-release speaker wire connectors on the high-level inputs. There are also twin phonos for line-level input and output. The control section, meanwhile, is mounted on the top panel. It's well hidden until you need it, tucked underneath a weighty piece of coated metal held in place by magnets. Controls are labelled to be used from above, with you leaning over from the front. Handy, as it saves needing to get around the back after installation for occasional adjustment. There are options for crossover, master level and (sweepable) phase. The latter, unusually, offers adjustment from 0-280 degrees. In combination with the e112's 0/180-degree polarity switch, it allows for plenty of by-ear fine-tuning to get the best integration between sub and speakers.

As soon as I fired up this shiny, deep-grilled cube in my room, I smiled. It's immediately apparent that its large cone has mercurial alacrity to fling itself a long way to and fro under almost any drive (JL Audio suggests a maximum excursion of 3in). And when it does it with anger and intent, it creates wave fronts at a fabulous speed. Basically, when your Blu-ray soundtrack goes bang, you'll be scared – fireworks, explosions, car crashes and other high-impact moments, where the director and sound designer meant the theatre subwoofers to wake up and squeeze the audience's adrenals, will startle you.

The smallish cabinet and driver size, compared to some of the behemoths of bass we've auditioned in HCC, only means a difference in scale. Cavernous rooms would no doubt benefit from a duo, or a larger (and more expensive) option. But having said that, the e112 still seems to perform beyond its stature, and can achieve the most profound lows, with its low-frequency rating of 17Hz at a -10dB, still-feel-it fashion.

I lived with this sub for a good few weeks/movies. With *Frozen* on Blu-ray, the opening sequence where ice is being harvested from a lake and boots thump on the solid surface was conveyed with a deep, chest-pounding bass response. My room shook with a controlled pulse. The baritone dialogue immediately following this was equally rich and deep.

In the later rock troll sequence, the sound of the creatures assembling offers a huge, scary, bassy rumble that has you believing you're surrounded by rolling boulders. The e112 was poised enough to handle the subtle complexity of the sound design. And in the infamous *Let it Go* tune, there's a monstrous slice of LFE as the ice palace is conjured on the mountain. The soundmix intends this to be thunderous and ground-shaking and, while it could have been more intense, the e112 managed it fairly whereas some lesser woofers would simply cough apologetically. I was impressed.

The *Elysium* Blu-ray features a main menu that is useful for subwoofer tuning as it has a bass-heavy soundtrack on a loop. Head from here to the opening sequence that zooms in on the habitat of Elysium and the LFE channel is used to shock and awe, with a lengthy descending tone. It made the hair stand up on my arms – the weight of pressure crafted by the e112 is impressive yet the control is incredible. When the effect finishes, the subwoofer stops like a fly on glue.

Long-term, low-frequency investment

JL Audio's newest subwoofer is certainly costly, but unlike other elements of your AV system you won't have to worry that it will be obsolete by this time next year. If you can afford it, it's worthy of your consideration. Nice to look at, even better to hear, and heartily recommended ■

SPECIFICATIONS

DRIVE UNITS: 1 x proprietary 12in long-excursion forward-firing bass driver

ENCLOSURE: Sealed

FREQUENCY RESPONSE: 22Hz-118Hz (+/-1.5dB). Also rated at 21Hz (-3dB) and 17Hz (-10dB)

ON-BOARD POWER: 1,500W RMS Class D switching amplifier

REMOTE CONTROL: No

DIMENSIONS: 394(w) x 412(h) x 467(d)mm

WEIGHT: 33.3kg

CONNECTIONS: Phono stereo low-level input/output; high-level input

HCC VERDICT



JL Audio E-Sub e112

→ £2,050 approx → www.jlaudio.co.uk
→ 07974 735 998

HIGHS: Tremendous power, depth, speed and grip; excellent room-position tuning features; sensible control placement

LOWS: Entry-level yet not cheap; would benefit from simultaneous dual-level inputs

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



BenQ plays the iteration game

The projector brand's re-imagining of last year's W1070 model is hardly revolutionary, but it's still insanely good value reckons **John Archer**

AV INFO

PRODUCT:

Affordable single-chip DLP PJ with Full HD and 3D playback support

POSITION:

Towards the lower end of BenQ's home entertainment projector range

PEERS:

Optoma HD50; BenQ W1080ST

AS ITS NAME makes no attempt to hide, the BenQ W1070+ projector only improves a little on the original, widely-admired W1070. Not enough, certainly, to justify being given a whole new model number. But with a price tag of only £650, any improvement at all has the potential to make the W1070+ a bargain of insane proportions.

Despite costing so little, the W1070+ delivers a Full HD resolution from its DLP engine; a promising claimed contrast ratio of 10,000:1; and a high brightness of 2,200 Lumens. It's also been tuned expressly for home cinema use, too, rather than being a re-purposed data projector.

Angling for acceptance

The W1070+ is pretty enough to sit happily in a living room environment. Its mainly gloss-white finish rests attractively alongside metallic grey highlights around the lens barrel, and there are enough artful curves and angles

in the sculpting to make it look as if someone actually cared how the W1070+ looked.

While taking in the W1070+'s design, I was pleased to find a vertical image shifting system under a slide-back panel. This welcome setup aid is often ignored on projectors under £1,000. With two HDMI inputs, an RS-232 system integration port and a 12V trigger output, the PJ's connections are pleasing, too.

There are some hookups that mark the W1070+ out from the original W1070: MHL mobile phone playback via an optional dongle and a new wireless HD video transmission system. This latter feature is optional (£250 as a standalone add-on, or buyable with the projector for £800 all-in). You attach the transmitter to your video source and the receiver to the projector, so you can send your video wirelessly as far as 30 metres, rather than having to cable around your room.

Another difference on the W1070+'s specifications sheet is its 2,200 Lumens versus



The W1070+ offers an on-body 1.3x zoom and vertical lens shift

the W1070's 2,000 Lumens. This extra luminance aims to boost both colour response and shadow detailing.

Am intriguing new feature for the W1070+ is a built-in 10W 'resonant chamber' speaker array. This works remarkably well, delivering a wide, clean, surprisingly dynamic soundfield that's tolerable to listen to. Dare I say it, it's pretty much a first for the PJ audio world.

Of the features the W1070+ shares with its predecessor, a highlight is the wealth of picture

'BenQ continues to reign supreme when it comes to bigscreen home entertainment on the cheap'

calibration tools. These include colour and gamma management and help the unit secure the endorsement of the Imaging Science Foundation (ISF).

The W1070+ supports 3D playback, but you don't get any of BenQ's active shutter 3D glasses included for free.

Sharp-shooter

This mid-sized living room light-cannon is a remarkably accomplished performer for its money. HD sources (which is what your bigscreen diet should solely consist of these days) look razor-sharp; the stunning levels of detail in my much-loved *Pacific Rim* Blu-ray are rendered beautifully. The projector easily picks out such image minutiae as the weathered look to Becket's aging Jaeger war machine. The image doesn't suffer with stressy edges or excessive grain or dot crawl either, showing the sharpness is natural rather than forced by processing.

Another potent element of the W1070+'s images is its colour response. *Pacific Rim*'s

lurid colour palette is done full justice, even during scenes, such as the opening Kaiju battle, that feature hyper-colourful graphical interfaces. There's a pop and impact here, compared to the dullness I've witnessed on budget projectors. In fact this is one area where the W1070+ out-performs the first W1070, with its improved brightness giving colours a little extra punch.

Subtle, shadowy detailing in *Pacific Rim*'s darker scenes, such as those lensed within the Jaeger interiors, is conveyed with aplomb. The W1070+'s extra brightness achieves this without compromising the projector's black response which, while actually the weakest element of the W1070+'s picture make-up, is still convincing considering the price point.

The W1070+'s clarity remains almost completely intact when there's lots of motion in the frame – a familiar strength of DLP technology, especially when, as here, the six-speed/six-segment colour wheel arrangement is good enough to stop moving skin tones looking fizzy.

You can get deeper black levels and more nuanced colours if you spend quite a chunk more on a projector. And occasionally I noticed traces of the so-called DLP rainbow effect, where stripes of pure red, green and blue flit into view over stand-out bright parts of the picture. Some are more susceptible than others to this, so you should probably grab a demo if you can.

The BenQ is less successful in 3D mode. Here, the image becomes bizarrely infused with red. This isn't too noticeable during bright footage, but during the night-time Kaiju battles the sky was endowed with a distracting scarlet tinge. It's unfortunate, because elsewhere the W1070+ is a credible 3D machine, delivering plenty of detail, colour richness and brightness.

A final point to add: the wireless HD transmitter, if you opt to get it, works flawlessly in 2D and 3D mode, adding no interference or extra image delay (I consistently measured input lag at an impressively low, gaming-friendly 34ms).

Object of desire

Basically, I'm in love with the W1070+. The improvements engineered over the already brilliant-value W1070 may be slight but they're all worthwhile, ensuring that BenQ continues to reign supreme when it comes to delivering genuine bigscreen thrills on the cheap ■

SPECIFICATIONS

3D: Yes. Active (but glasses are optional)

4K: No. 1,920 x 1,080

CONNECTIONS: 2 x HDMI inputs; component video input; D-Sub PC port; MHL input; mini-jack audio input; composite video input; USB for power supply; RS-232C; 12V trigger output

BRIGHTNESS (CLAIMED): 2,200 ANSI Lumens

CONTRAST (CLAIMED): 10,000:1

DIMENSIONS: 312(w) x 104(h) x 244(d)mm

WEIGHT: 2.75kg

FEATURES: Single-chip DLP projector; 6-speed/6-segment colour wheel; Brilliant Colour processing; ISF certified; 1.15-1.5 throw ratio; 40in-235in image; 1.3x optical zoom; claimed lamp-life of 6,000 hours in SmartEco mode; vertical lens shift; vertical and horizontal keystone adjustment; 28dB fan noise; optional wireless HD transmission system



HCC VERDICT



BenQ W1070+

→ £650 Approx → www.benq.co.uk

→ Tel: 0906 753 3443

HIGHS: Stunning value; good 2D pictures for the money; cute design; plenty of setup tools

LOWS: Curious red tinge to 3D; black levels only so-so; occasional traces of rainbow effect

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

Return to the matrix

HDanywhere's mHub matrix is an insanely versatile HDMI over IP distribution solution.

Steve May routes his HD hither and thither



diminutive receivers. Each requires its own power supply, and has an RJ45 connection, plus IR RX/TX jacks, an HDMI output and coaxial digital

audio breakout. You can manually toggle ARC for each receiver. Rounding out the package is a small remote zapper, and assortment of neatly packaged power supplies and cables.

WITH A MULTIPLICITY of HD sources fighting for ingress into our shiny new TV screens, be they in the living room, bedroom or bathroom, managing and distributing them traditionally presents a challenge. The mHub, an HDMI over IP matrix, presents a powerful solution. With it you can route any combination of four sources to any combination of four HDMI-equipped displays, using Cat5e (and up) cable as the data carrier between the transmitter and receiver. The system can deliver Full HD video (up to 60p), with support for 3D, at distances rated up to 50m.

HDanywhere, a brand of UK AV and custom install specialist HD Connectivity, is known for pro distribution products, but every so often launches kit that straddles the enthusiast divide. The mHub is one such, designed for professional deployment in smaller custom install projects, but using technology unlikely to phase keen AV-holics.

As we've come to expect from the marque, the mHub adopts an unapologetically industrial design. The metal cabinet may promise longevity, but it'll stick out like a sore thumb in a living room equipment stack. This is primarily intended for racking in a boot room. Bolt-on rack ears are supplied in the box. The rear panel features four HDMI v1.3 inputs and

corresponding display outputs, comprising a single Cat cable and HDMI for each of the four displays served. There's also a quartet of matching IR send-and-receive minijacks, plus IP and RS232 for bigger system integration.

The mHub pack includes four

Considering configuration

Setup takes no time at all. For most the challenge will lie in simply running individual Ethernet cables to required locations. The mHub is versatile when it comes to configuration. There are local mirrored HDMI outputs for each of the four inputs on the mHub itself. This means the matrix can also function as a fancy HDMI switcher for the main viewing location. This local matrix output is available even when routing HDMI over IP from the same output to one of the receivers. If you want to route sources to display and projector, or even different HDMI inputs on your TV (maybe to allow users to circumnavigate an AVR), without constantly pulling plugs, you can. You can also toggle any of the four inputs for each display output, all controllable at the display end thanks to those IR repeaters.

The mHub matrix offers Simple EDID management. This applies to each output, allowing you to best match the signal to your display devices. For example, I configured one to deliver multichannel audio (Dolby TrueHD and DTS-HD MA, bitstream or LPCM) to an AV receiver, while two-channel PCM was sent to a remote display.

The transmission of HD video is artefact free; IP-delivered material looks identical to source. A variety of motion resolution tests delivered via Blu-ray revealed no unwanted anomalies. The HD video at the display end is a mirror of what's going in.

When it comes to multi-source HD signal distribution, the HDanywhere mHub takes some beating. It offers extreme versatility, is simple enough to install, and performs well. Can we have one in black plastic please? ■

SPECIFICATIONS

VIDEO FORMAT SUPPORT: Full HD 1080p

AUDIO FORMAT SUPPORT: PCM; multichannel PCM; Dolby TrueHD and DTS-HD Master Audio bitstream

CONNECTIONS (MATRIX): 4 x HDMI inputs; 4 x HDMI outputs; 4 x RJ45 Ethernet cable outputs; IR TX/RX control; RS232 and IP control interface

CONNECTIONS (RECEIVERS): RJ45 Ethernet inputs; IR TX/RX; HDMI outputs; coaxial audio outputs

REMOTE CONTROL: Yes

DIMENSIONS (MAIN UNIT): 440(w) x 45(h) x 200(d)mm

WEIGHT (MAIN UNIT): 1.82kg

FEATURES: Locking power lead connector; rack-mount ears; 165Mhz processor with 4.95Gbit/s data rate

AV INFO

PRODUCT: 4 x 4 HDMI/IP matrix/switcher

POSITIONING: HDanywhere's entry-level multiroom solution

PEERS: Climax Digital Multiroom HD

HCC VERDICT

HDanywhere mHub

→ £1,000 Approx → www.hdanywhere.co.uk

→ Tel: 01684 576 348

HIGHS: Versatile 4 x 4 input/output mixing; Simple EDID management; lossless audio and video support

LOWS: Cosmetically industrial; doesn't support 4K video; you may need a crib sheet to keep track of what's going where

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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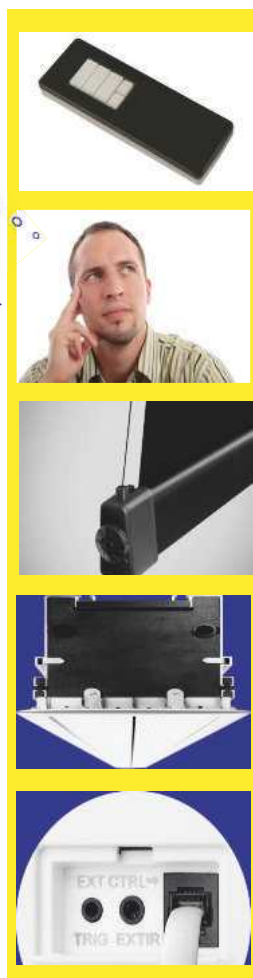
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SETC270WSF-ATR	2670 x 1500	105" x 59"	3245 x 155 x 170	16:9

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D.I.Y. delight

Steve May goes shootin' in 4K

THE 4K HOME video revolution has reached the consumer camcorder market, with Sony's first mainstream UHD shooter. The brand had touted the FDR-AX1 in 2013, but that was prosumer kit – this offering is a good deal smaller and more affordable, priced not much higher than you would have seen premium Hi8 video cameras back in the heyday of tape.

In terms of sophistication, this Wi-Fi-enabled camcorder ticks an awful lot of boxes. The camera is light at 915g (with its battery in place), and the LCD touchscreen is bright and engaging – although you'll struggle to see much here on a sunny day. When it comes to imaging, the 1.0-type Exmor R CMOS sensor is gratifyingly sensitive, with the 29mm Zeiss Vario-Sonnar T* lens wide enough to capture televisual vistas. The FDR-AX100 shoots 3,840 x 2,160, but is capped at 30fps.

4K image quality transpires to be exceptional. Footage is captured in XAVCS format, with bitrates up to 50Mbps. You can

also shoot AVCHD and XAVCS HD. A Dual Record mode helpfully records a more easily distributable MP4 version simultaneously when recording 4K.

Handily, playback can be achieved directly from the cam, using a supplied Micro-to-full HDMI lead. I connected the camcorder to Sony's VPL-VW1100ES flagship 4K projector, effectively creating a home-made digital cinema ecosystem. The level of recorded fine detail was just jaw-dropping when super-sized, adding new perspectives to even the most mundane of subjects. Colour vibrancy was delicious, too.



So, a neat high-end toy, providing far greater creative control than your 4K 'phone. You'll need to invest in a serious SD card, though – ideally 64GB Class 10 or faster ■

HCC VERDICT

Sony FDR-AX100 → £1,700

Overall ★★★★★

ECLIPSE TD-M1 → Approx £1,000

Egg-cellent performers

We only allowed **Adrian Justins** one 'egg' pun in this review. And that was it

A GRAND IS a substantial sum for a pair of desktop speakers but these are no ordinary monitors. Twelve years in the making, Eclipse's TD-M1s pack a 192kHz/24-bit Wolfson DAC, a fingernail-sized 50W amplifier, asynchronous USB B input (for bypassing your computer's

inferior DAC and enjoying hi-res FLAC and ALAC files), and AirPlay wireless connectivity.

Happy days then for Apple fans, but perhaps not so good for Android users, although kit can be hooked up to the USB A or 3.5mm aux jacks. Actually, that last input also ensures compatibility with any TV headphone output and the TD-M1s make splendid-looking substitutes for a soundbar.

The speakers themselves sport glass fibre egg-shaped enclosures, designed to minimise internal standing waves; inside, various anti-vibration tech marries to the single full-range driver for an optimised sound signature without the need of a crossover or timing worries (hence the Time Domain branding).

Sonically, this is a superb system. With a TV it serves up resonant vocals backed up by an beautifully well-balanced soundscape. It's equally adept with daytime TV shows as more complex material, and makes even muttered and scrambled dialogue sparkle. Musically, it's perhaps more impressive; Chris Isaak's *Wicked Game* sounds rich, dynamic and sonorous, and pleasingly free from distortion when cranked up loud.

There's an effortless nature here that's hard not to love. In fact, the TD-M1s have such a good performance that the dilemma is perhaps which room to put them in ■



Eclipse's iconic design should glam up your room

HCC VERDICT

Eclipse TD-M1 → £1,000

Overall ★★★★★

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Panasonic's archiving angel

Panasonic's Smart Blu-ray/HDD Freeview+ HD recorder provides unique flexibility when it comes to managing your TV intake. **Grant Rennell** reaches for the remote...

AV INFO

PRODUCT:
All-in-one BD
player/recorder/
HDD PVR

POSITION:
Panasonic's top
recording option

PEERS:
Samsung
BD-H8900M;
LG HR939M

PANASONIC'S 2013 BLU-RAY/HDD

Freeview+ HD recorder, the DMR-BWT735, was an impressive PVR, Blu-ray player/burner and multimedia machine, although some functionality clashes counted against it.

This year's model, the DMR-BWT740, shares much of its predecessor's specification, but notable new features are 4K upscaling for your Full HD Blu-ray discs, 4K JPEG playback, the ability to display content from Miracast-compatible Android mobile devices via the recorder on your flatscreen, Wi-Fi Direct compatibility and a web browser. It will naturally also play 3D Blu-ray discs and convert 2D sources to 3D. There's a roomy 1TB hard drive onboard, or you can store recordings on a USB HDD (although they can't be played on other devices).

This combi deck is heavy and rather large but looks a little smarter than the DMR-BWT735, although it's still on the conservative side in terms of styling. A power button and one for the disc tray are situated on the top and a large LED display performs multiple functions, such as displaying the name of the channel you're watching and if you're recording or timeshifting.

The front flips down (automatically when the disc tray opens) to reveal two more operating buttons, a USB port and an SD card slot. Rear connections include an RF loopthrough, HDMI output, optical and coaxial digital and stereo phono audio outputs and a Scart input for recording from external equipment. There's also an Ethernet port for networking (Wi-Fi is built-in) and another USB port on the rear.

The remote, which was handily able to also control my Panasonic TV, isn't short on buttons, but sensible grouping, use of colour and shortcuts make it fairly easy to use. The box can also be controlled using Panasonic's DIGA Player app for compatible iOS and Android devices.

Recording choices

The user interface has seen some visual improvements, in particular the Function Menu where selections zoom in and out attractively. The EPG displays information for Freeview channels in a straightforward grid format, sortable in myriad ways, such as showing HD or only those in a favourites list (of which you can have four). Employ the EPG to set



recordings, including series links (you're notified if a programme is also available in HD). Alternatively, an attractive online Rovi Guide can be used for scheduling.

Recordings can also be instigated by hitting record, via a now-and-next 'channel information' bar, using a manual timer or, if you want to be really clever, via the internet using Panasonic's Remote Recording Service on a PC, smartphone or tablet.

Standby for action

Up to two channels can be recorded at once from the internal tuners, including while playing a recording. You can even record while the player is in standby. Spooky.

There are numerous recording modes to consider. The default 'DR' quality setting matches that of the original broadcast. Watch-and-wipers who keep a tight rein on HDD capacity should stick to this. You can also choose from less space-intensive HG, HX, HE, HL and HM modes for hi-def or the standard-def XP, SP, LP and EP. DR recordings

'As a media hub, the deck caters for playback from a variety of locations, and acts as a server, too'

can be downconverted to other formats – for archiving to BD or DVD – while the box is in standby, but not while recording or playing something.

An estimated 259 hours of HD or 518 hours of SD DR-quality TV can be stored on the HDD or 1,724 hours of EP-quality recordings. Anyone who does that is obviously nuts, though.

Accessible via a Direct Navigator menu, the Panasonic allows you to protect and rename recordings, create chapters (this can be done automatically, too) and edit them by deleting

bits or dividing them up. An extensive number of recordable DVD and Blu-ray formats are catered for with a (quieter but it takes longer) 'normal speed' copying option. Note that you can't record to the HDD while archiving to disc.

You can utilise the ITB drive to pause/rewind live TV for up to 90 minutes.

As a media hub, the DMR-BWT740 allows for file playback from a variety of locations: the HDD; SD card; an optical disc; USB drive; or from a networked device via DLNA. There's support for music playlists and a slideshow option for photos. Format compatibility is broad, although I was unable to stream MKV files from my networked laptop running Windows 7. Miracast functionality (you need Android 2.2 or higher) can be enabled via the Function Menu.

The box can also act as a server, streaming video – including live or recorded (SD only) TV – and photos to networked machines, including compatible TVs and Blu-ray players, with the Diga Player app. This worked for my laptop where the PVR was recognised by Windows Media Player.

As well as the Rovi Guide and web browser, internet apps include Netflix, YouTube, BBC iPlayer, Facebook, Twitter, iConcerts and games from PlayJam. The Freetime catchup service, which Panasonic has successfully integrated into a number of its 2014 TVs, would be a welcome addition here, but is not supported. The web browser is relatively easy to navigate even from the supplied handset. Flash isn't supported, but that's less of a big deal these days.

The tuners generate crisp-looking images from HD and upscaled (to 1080p) SD TV, which was maintained in DR-quality recordings. Quality inevitably worsens when using the lower settings, though DR HD recordings converted to HM are passable. Recordings from a Scart-connected Virgin Media TiVo looked acceptable, too.

Blu-ray performance also impresses. The sharp textures of *Toy Story 3* are woven without digital hiccup and details in the murkier scenes of *Alien* shine through.

Taking it to task

Frustratingly, as with the DMR-BWT735, multi-tasking is not this machine's strong point. I was unable to make use of the Smart apps, stream media files to the box or play them from a USB drive while recording. Considering that in this era of series links and multiple channels, we're not always aware that our PVR is in action, this is a bit of a downer. That aside, the modish feature additions, other 'tweaks' and good build quality and performance altogether make the DMR-BWT740 another likeable all-rounder. However, its appeal is very niche indeed – unless you're keen to archive TV shows to disc there's a lot here you won't need ■

ON THE MENU



→ Recordings can be accessed and managed in the Direct Navigator menu where they can be renamed, protected from deletion, converted and edited. You can also create chapters and export them to disc or USB drive. Those which can only be copied to disc once are flagged

SPECIFICATIONS

HDD: ITB
TUNER: Yes. 2 x Freeview HD
MULTIREGION: No. Region B BD/R2 DVD
CONNECTIONS: HDMI output; Scart input; optical digital audio output; coaxial digital audio output; stereo phono; RF loopthrough; Ethernet port; 2 x USB 2.0 ports; SD card slot; integrated Wi-Fi
UPSCALING: Yes. To 4K (BD)
DIMENSIONS: 430(w) x 59(h) x 238(d)mm approx
WEIGHT: 3.3kg
FEATURES: Freeview+ HD recorder; BD-R (SL/DL) BD-RE (SL/DL), DVD-R (SL/DL), DVD-RW, DVD+R (SL/DL), DVD+RW, DVD-RAM, CD-R, CD-RW, CD-DA discs supported; 3D Blu-ray playback; 2D-3D conversion ability; 7-day Freeview EPG; HDD stores up to 259 hours of HD or 518 hours of SD DR-quality recordings or 1,724 hours(!) using EP setting; automatic series recording; favourites lists; remote recording scheduling; 90-minute live pause; copy recordings to disc and USB drives; editing and chapter creation; Smart feature including Netflix, YouTube, Rovi Guide, Facebook, Twitter, iConcerts, games, web browser; media playback from USB/SD card/DLNA; 4K JPEG playback; Diga Player app compatible; Miracast support; Wi-Fi Direct support

HCC VERDICT



Panasonic DMR-BWT740

→ £500 Approx → www.panasonic.co.uk
 → Tel: 0844 844 3899

HIGHS: Versatile TV recording and disc archiving capabilities; good overall build quality; laden with functions; 4K JPEG playback
LOWS: Not great at multi-tasking; no Flash support for web browser; chunky design; plethora of recording modes you won't use

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

Totally Klipsch

The US speaker brand was never likely to launch a soundbar/subwoofer combi that would appeal to fashionistas. **Adrian Justins** ignores the black box design and likes what he hears



KLIPSCH'S R-10B SOUNDBAR houses two 3in mid-range drivers and two 0.75in tweeters mated to dual Tractrix horns. These horns are filtered down from the Klipschorn, a legendary high-end floorstander which has been in continuous production for over 60 years. Yet while the R-10B might wow you with its sonic technology, visually it's a different story. It looks about as cutting-edge as a rubber knife.

The woofer and 'bar do feel solidly built, though, which is arguably more important. The main unit is hewn from satin black plastic with a steel mesh grille. There's no display window, just a series of buttons and an LED. The basic controls are duplicated on a mini remote.

The soundbar's maximum power output is rated at 100W, whilst the sub, which has an 8in side-firing driver, maxes out at 150W. There are no DSP modes to play with but the R10-B sports Dolby Digital decoding and CD-quality apt-X Bluetooth audio streaming. Socketry

comprises digital optical and stereo phonos, so no HDMI and only one digital input. You'll use your TV as a hub.

Plenty of soundbars are mounted on a table top or some kind of rack or stand, where they risk partially blocking the TV screen. Hence the fashion for models

that tote slender or angular designs. Not so the R-10B, which measures 10.5cm tall. The wireless sub is probably easier to accommodate.

Ready to rumble

There's nothing worse than a soundbar that needs constant tinkering to get the best out of it. Luckily, you can hardly tinker with the R-10B, and nor do you need to. Clarity and detail are the order of the day, especially with vocals and other mid-range sounds, and the woofer is the perfect Torvill to the soundbar's Dean.

In *Ice Age 4*'s DTS-HD MA soundtrack, scenes where the landscape breaks up are underpinned by rich, resonant, controlled creaking, and when Scrat plummets to Earth he lands with a meaty thud. Explosions and sonic booms won't rattle your chandeliers but the rumble of thunder and roar of a sabretooth tiger are a vast improvement over a TV's speakers, and as the gang sledge down a mountain you can pick out the individual voices against the musical score and whoosh of the sledge on the snow. Scenes such as this, which have a broad dynamic range and multiple, varied effects, are coherently presented, with Klipsch's horn-loaded tweeters admirably lending impact to the high frequencies.

The bar's 3D mode is a waste of time and quite unnecessary as the R-10B has a very good sonic dispersion. Sit almost anywhere with a view of the screen and you're catered for.

Overall, the R-10B may not be the most exciting product to look at or use but it delivers the sonic goods with panache and is ideal for a small to medium-sized viewing room. On the pricey side, though ■

SPECIFICATIONS

DRIVE UNITS: 2 x 3in polypropylene mid-range drivers; 2 x 0.75in textile dome tweeters married to twin Tractrix horns

AMPLIFICATION: 100W

CONNECTIONS: Digital optical; stereo phono analogue

DOLBY TRUEHD/DTS-HD MA: No/No

SEPARATE SUB: Yes. 150W, 8in driver

REMOTE CONTROL: Yes.

DIMENSIONS: 1,015(w) x 105(h) x 71(d)mm

WEIGHT: 3.2kg

FEATURES: Dolby Digital decoder; Bluetooth wireless audio streaming with apt-X; 1.5m optical cable; rubber feet; wall-mounting template; 3D sound mode; wireless subwoofer

AV INFO

PRODUCT: Soundbar/subwoofer combi

POSITION: Below the R20B, which offers a larger woofer and additional drivers

PEERS: Q Acoustics Media 4; Bose Cinemate ISR; Sonos PlayBar

HCC VERDICT

Klipsch R-10B

→ £500 Approx → www.klipsch.co.uk

HIGHS: Balanced, distortion-free sound; well integrated (and wireless) subwoofer; Bluetooth streaming

LOWS: Dull design; limited socketry including zilch HDMI inputs; sizeable form could make installation awkward

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★



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4K for the everyman?

Philips continues to show **John Archer** its new wallet-friendly side with this strikingly affordable UHD TV, but with some corners cut along the way this 55-incher is hard to recommend

AV INFO

PRODUCT:
Affordable 4K TV
with Ambilight

POSITION:
Currently the most
top-end TV we're
getting from Philips
in the UK

PEERS:
Sony 55X8505;
Samsung
UE55HU7500

PHILIPS HASN'T TRADITIONALLY been a brand associated with extreme value, at least with its relatively top-end sets – Korean and Japanese brands have often released flagship models that manage to undercut Philips' range-toppers in terms of price. However, as testament to how focused the revamped marque is on re-establishing itself as a major player, the 55PUS7809 launched at only £1,500. And it's a 4K model, making it the cheapest 55in 4K TV I've tested to date.

There are other more expensive 4K screens pouring forth from the company's factory – the 8000 and 9000 series – but it's not yet clear whether these will ever be on sale in the UK. At the moment, the 55PUS7809 is as

The back of the handset has a QWERTY keyboard for Smart apps



high-spec a Philips TV as you can get. And the question therefore becomes: does this mid-range model have anything going for it beyond its price tag?

Hey, good lookin'

First impressions bode well. The 55PUS7809 offers a slim bezel that still manages to look characterful and robust courtesy of a glossy black finish offset by a metallic outer trim.

And the desktop stand is a common-sense design that will work seamlessly with your AV furniture.

Then there's Ambilight, Philips' proprietary and engaging technology that casts coloured light pools – potentially matched in tone and position to the

pictures being watched – from the TV's left and right sides. It's a clever feature that you're likely to leave on.

The 55PUS7809's connectivity is problematic, though. The quantity of sockets is good (there are four HDMI inputs, three USB ports and wired and wireless network options) but the HDMI's don't provide version 2.0 support. So they can't play 4K at higher frame rates than 30fps.

That's not the only 4K shortcoming, either. The lack of any HEVC decoders in the 55PUS7809 means it can't play Netflix's 4K streams – as well as, most likely, streams from other upcoming UHD internet services. Given

'This TV serves up the rich hues of Spider-Man's costume with the right combination of punch and subtlety'

the current dearth of 4K sources beyond IPTV, this lack of HEVC support is a major downer.

There is a solution in the shape of Philips' UHD 880 media player, which is due to launch early in 2015 for around £250. But while this will support HEVC streaming, it won't overcome the 55PUS7809's 30fps 4K limitation. And it takes a shine off the TV's price-based appeal.

The Smart features here are rather limited, including only a few of the key video streaming services I look for. It's fair to say I can't wait for Philips to launch its Android TVs in Blighty.

Calibration options

The TV's picture specification highlights are a claimed motion handling rate of 600Hz, and Philips' Micro Dimming Pro system, which evaluates the image as thousands of separate blocks prior to picture processing. You also get a huge list of adjustment options for calibration, including colour management tools and control over most aspects of the brand's Pixel Precise Ultra HD video processing engine. The TV is certified by the ISF.

The use of an IPS-type LCD panel means colours and contrast hold up well from wide viewing angles. However, contrast is less impressive. During the sequence in *The Amazing Spider-Man 2* where Spidey and Electro fight at night in an electrical substation, dark parts of the picture appear noticeably grey. There's also a shortage of shadow detail in these murky backgrounds, which serves to flatten the image and reduce the sense of scale the fight sequence should offer.

Skip to shots where Electro's bright, glowing face and body stand against the night sky and there are noticeable areas of backlight clouding, where some parts of dark areas look

unnaturally brighter than others. And the provided dynamic backlight system, which you might consider employing in pursuit of deep blacks, is infuriatingly unsubtle.

Yet in other ways the 55PUS7809 is a great performer for its price. It delivers the eye-opening detail expected from a UHD/4K screen, with native 2,160p sources appearing so pixel-packed and clean that you almost forget they're TV pictures at all. It's also a fine upscaler of Full HD sources, remapping even gritty content like my *300* Blu-ray to its 4K resolution cleanly and thoughtfully.

Action scenes and sports footage reveal better-than-expected motion handling. There's minimal reduction in the intense sharpness over moving objects, meaning the 4K 'effect' remains intact and consistent. The cleanest motion is achieved using the TV's Natural Motion processing. But I'd recommend against this, as it can create processing artefacts that detract from the whole experience.

Colour performance is fine. The 55PUS7809 serves up the rich hues of Spider-Man's costume with just the right combination of punch and subtlety, ensuring that despite the dynamism of the suit's colours you can still see all the tiny shifts in tone that make it look real rather than cartoonish.

If 3D is still a big deal to you then the 55PUS7809 is a superb option, with stereoscopic images that combine vivid colours, high brightness levels, an almost total freedom from crosstalk ghosting noise and a good sense of space that's extremely effective with *Spider-Man 2*'s New York vistas. And the 4K panel helps retain a level of sharpness and detail with Full HD BDs that regular passive screens can't provide.

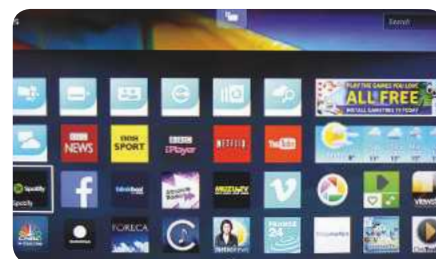
Sonically, this slinky 55-incher performs quite well. With the Spidey flick, it reproduces the blockbuster soundtrack with plenty of distortion-free volume, good treble detailing and well-rounded vocals. The catch is that heavy bass content swamps the audio band, to the detriment of other frequencies.

First-gen offering

The 55PUS7809 is an interesting flatscreen. In some aspects it performs admirably given its price point, even though it's another example of an IPS-based model that has a middling contrast performance.

It will no doubt catch the eye of those looking for an affordable 4K upgrade, too. However, in this regard, it's very much a first-gen offering at a time when rival brands are well into their second stage of UHD development. The addition of Philips' forthcoming media player will work around the HEVC deficiency – at a cost – but the lack of HDMI 2.0 support will be a bigger concern for those with an eye on future 4K Blu-ray and (especially) broadcast TV platforms ■

ON THE MENU



→ Philips' Smart hub sports a fuss-free design, with app icons arranged in a grid. Some key video-on-demand services – ITV Player, for instance – are missing, and the Netflix app doesn't support 4K as the TV has no HEVC decoder

SPECIFICATIONS

3D: Yes. Passive (four pairs of glasses supplied)

4K: Yes. 3,840 x 2,160

TUNER: Freeview HD

CONNECTIONS: 4 x HDMI (v1.4); component video; 3 x USB; integrated Wi-Fi; Ethernet; Scart; D-Sub PC port; CI slot; optical digital audio output; stereo analogue audio input

SOUND: 25W

BRIGHTNESS: N/A

CONTRAST RATIO: N/A

DIMENSIONS (OFF STAND): 1,232(w) x

710(h) x 35(d)mm

WEIGHT (OFF STAND): 19.5kg

FEATURES: Two-sided Ambilight; Pixel Precise Ultra HD processing; 600Hz-emulating Natural Motion processing; IPS panel; ISF certification; colour management system; DLNA/USB media file playback; Smart hub; USB recording/pause live TV; QWERTY remote control; Quad Core processor; Miracast screen mirroring; 2D-3D conversion

HCC VERDICT



Philips 55PUS7809

→ £1,500 Approx → www.philips.co.uk

→ Tel: 020 7949 0319

HIGHS: Sharp UHD and HD pictures; rich but subtle colours; neat and tidy design; affordable price

LOWS: Black levels aren't great; care needs to be taken with some processing options; no HEVC 4K support; no HDMI 2.0 ports

Performance ★★★★★

Design ★★★★★

Features ★★★★★

Overall ★★★★★

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DIGITAL COPY

The buzz created around product launches from Apple leads to customers queuing up to buy. **Mark Craven** wonders if the same will ever be said about 4K Blu-ray

APPLE SURE KNOWS how to launch a product, doesn't it? Back in September, its triple-release of two new phones and a Smart Watch dominated the webpages of the gadget press, and even some of the front pages of the broadsheets, too. The iPhone 6 Plus, in particular, was everywhere, generating more column inches than the front aspect of the Acropolis despite being, essentially, Apple's version of a plethora of other largescreen handsets that have been out for a couple of years.

Why does the Californian corporation garner such excitement? For a variety of reasons, certainly. The obvious one is that its eco-system is huge – the number of people using an iOS device is into the hundreds of millions, so when an update is announced, it's major news for planet Earth.

But there's another big reason why its launches are so successful, and that's simply because it puts in a lot of effort, turning them into an event in their own right.

Apple doesn't grace global tech shows with its presence. It could have announced its new hardware at the earlier IFA show, which is where Samsung outed its Galaxy Note 4 'phablet', but it chooses to go it alone. 'We're better than the rest,' Apple is saying. And while the leaks come, the company never confirms before the day what it will be launching. **An Apple event is treated as a tech surprise (with U2 thrown in for good measure) so that when it finally happens, the excitement has reached fever pitch.** And the launch itself is supremely slick, streamed globally over the 'net to its fans and with an audience of rabid tech journos whooping and clapping from the seats.

(As an aside, this is the oddest thing about an Apple launch – supposedly brand-neutral hard-

boiled hacks behaving like tweens at a One Direction concert. I may try the same approach at the next unveiling of an HDMI switcher.)

Embrace the hype

So here's an idea – the brains behind 4K Blu-ray should adopt the same strategy. This is, after all, big news in tech terms. 4K Blu-ray will revamp a format that has been adopted by hundreds of millions of people. So it should conduct a lavish worldwide same-date launch, away from CES, CEATEC, IFA or any other tech show. Perhaps from a shiny televised platform in Hollywood, with The Rolling Stones on hand to sing *Start Me Up* while the 4K BD deck is booting, and an announcement that software and hardware will go on sale the very next day.

None of this will actually happen, of course. Mainly because the Blu-ray Disc Association has already jumped the gun and announced the new format will arrive. So from now until it eventually surfaces, you can expect a drip-feed of information, arriving from all manner of places, which will then be pulled apart and analysed by AV commentators, to the point when the first players hit shop shelves – probably before any discs have arrived – and the overriding feeling is one of massive ennui.

Surely 4K technology is a Big Thing? Not as big as a new smartphone (oddly, if you ask me) but still big enough to be treated as such. The forthcoming Blu-ray upgrade, if it's to capture public and press excitement and wrestle some of the initiative away from streaming services, needs to be launched with some real razzmatazz. And to help out, I would even give it a standing ovation ■

*Have you ever queued up to buy new tech?
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In pursuit of platform fairness
Mark Craven uses an Apple laptop, Windows PC and Android phone. And buys blackberry-flavour cough sweets





FILM FANATIC

Revisiting *Ghostbusters* on Blu-ray helps **Anton van Beek** rediscover the power of the traditional matte painting...

SINCE THE WIDESPREAD adoption of digital visual effects during the 1990s, several filmmaking arts have essentially fallen by the wayside. The most notable for me is the demise of the matte painting – a technique used to combine a piece of live-action footage of a limited scale with a more expansive, or ornate, painted background or foreground. This was a method used to create epic vistas that otherwise couldn't be achieved without bankrupting the studio.

Part of the filmmaking process since the earliest days of cinema, the matte painting was traditionally done directly on to a large sheet of glass, which would be positioned in front of the camera; an unpainted space left on the glass is where the live-action material would be visible. The camera would then capture both elements while filming, combining them into a single image on the negative.

Unsurprisingly, the arrival of computer technology has led to this notion of painted mattes being ditched entirely in favour of 100 per cent digital composites. And why not, when this advance in processing power clearly offers greater flexibility to filmmakers? **Why would anyone spend ages repainting an image by hand when they could just hit 'Undo' on a drop-down menu on their computer?**

However, to my eyes it has also removed some of the artistry from the matte effect. I'm not disputing that there is an inherent artistic talent needed in the creation of a digital matte, but I do feel that they frequently comes across as looking rather soulless.

By contrast, what I love most about old-school painted mattes were the minor imperfections and the artistic license that was sometimes taken to heighten the visual and emotional impact of a specific shot.

Just look at the image taken from *Ghostbusters* that appears at the top of this article. Painted by celebrated special effects artist Matthew Yurich (who worked on some 70 films, including *The Robe*, *Ben-Hur*, *Blade Runner* and *Die Hard*) it depicts an exterior shot of the damage done to Dana's apartment as the movie's four heroes enter it.

If this shot was being created today in an entirely digital workspace, I have no doubt that it would be a spectacularly rendered cityscape packing in masses of intricate detail. However, while Yurich's painted matte also sells that epic sense of scale, by departing from absolute realism it has even greater impact. By pushing the perspective slightly beyond the norm, Yurich's matte heightens the unnatural feeling of what we're looking at. This feeling is aided further by the use of unusual pink highlights elsewhere in the cityscape – a colour that *Ghostbusters* regularly linked to supernatural events.

Artificiality vs reality

These days, the quest for photo-realism in visual effects seems to have trumped everything else. And while the inherent fakeness of a painted matte could be used to give a shot more emotional depth (just look at 'Pop' Day's exquisite mattes for *Black Narcissus*), the all-too clinical and 'realistic' nature of most digital mattes offer little beyond visual spectacle. Furthermore, the chance of finding any trace of the artists themselves in the finished VFX shots is simply nonexistent.

Personally, I think this is a real shame. At least the existence of Blu-ray allows me to savour the painted mattes of older films in greater clarity and detail than I ever felt possible ■

*Do you have any favourite visual effects shots from films?
Let us know: email letters@homecinemachoice.com*

Anton van Beek may only live in a smallscale flat, but thanks to a matte painting on a pair of glasses, it always looks like a Georgian townhouse to him



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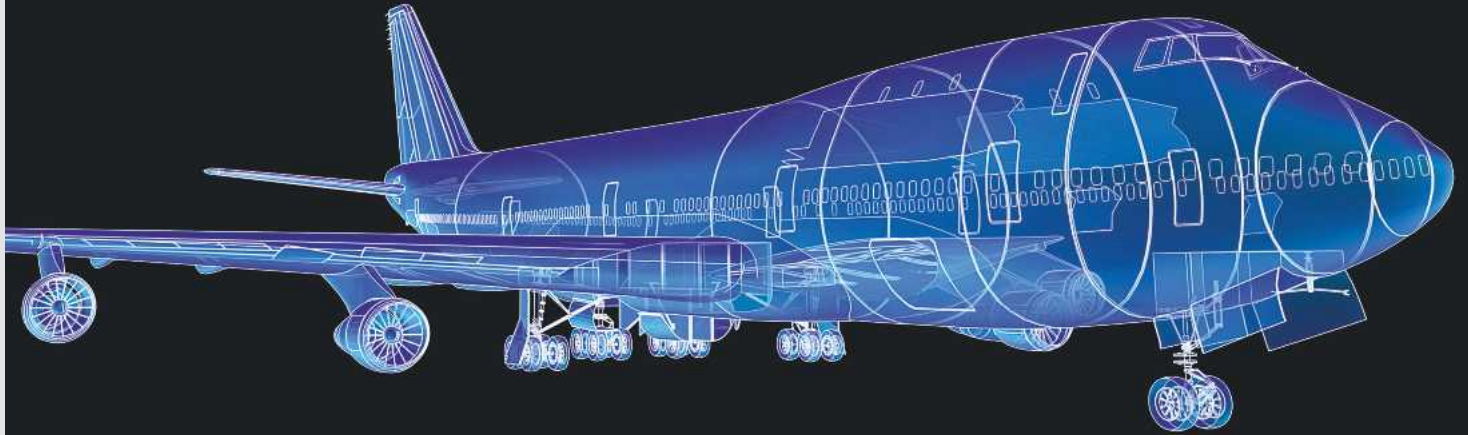
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THE INSIDER

After a flying visit to the CEDIA Expo, **Martin Dew** sticks up for the precision and 'how do they do that?' nature of American design and engineering

SOME YEARS AGO, *The Sunday Times* ran an excellence-in-design feature on the last page of its colour supplement. The Seattle-born Boeing 747 was one of its nominees and the writer cited, as two of its chief attributes, a passenger cabin ambience reminiscent of '5-star hotels', but best of all, on its exterior, a 'friendly face like a St. Bernard dog'. Now, we don't normally associate design sophistication with America – the words 'big' and 'brash' tend to be thrown around a bit – but as someone pointed out to me recently, 'casual elegance' is where the country's architects excel. And nor do we necessarily think of the US as a hub of great engineering prowess.

While gazing out of the window from my seat on a Boeing 737 bound for the CEDIA Expo in Denver, my field of view was filled by a General Electric engine riveted so assuredly to its wing via a massive, oversized pylon, that I wondered in awe at the laboured processes that must have been required to turn the beast into reality. And arriving at the tech show, I saw so many small to mid-size American companies – still alive and well after an unforgiving and flat-lining recession – committed to the very same design and build ethics. **There is a legacy of quality that has driven America's massive consumer electronics market for years.** It's just rarely talked about.

Two small home-grown companies particularly grabbed my attention. Both Paul Brownlee, director of operations at Parasound, and Ted Moore, co-founder of Acurus, talked me proudly through their offerings of mouth-watering and beautifully-rendered power amplifiers and processors. Neither organisation can boast more than a handful of employees, yet they manufacture middle/high-end

home cinema kit with such studied precision and attention to detail. I think the US draws a short straw sometimes on a fractious and cynical world stage, so I will go out on a limb here and unashamedly give up a high-five to our trans-Atlantic friends.

Some like it hot

I feel I must weigh in on Richard Stevenson's recent Point of View column about watching movies during a Summer heatwave, because he surely has it lucky. I cancelled a number of my Wednesday movie nights during July, August and September, simply because not even my air-conditioner could compete with the intense heat radiating from my equipment rack. In September, the temperature here in the San Fernando Valley was nudging 110°F (er... that's 43°C, folks). Combine that with an Epson projector that blasts Vesuvian exhaust gases onto my guests' heads, fan-cooled power amps that will still remove the skin from your fingers if you touch them accidentally, and an Integra processor that should read 'Fry eggs here' on the grate of the chassis, and you have a recipe for discomfort. I did affix a low-profile Middle Atlantic fan to that steamy area of my pre-amp, but now it just redirects scorching air on to my wall-mounted Darblet, which itself could double as a travel-size hot water bottle.

As we upgrade and add equipment to our home cinemas, more and more attention needs to be paid to management of heat, cables and power. At a push, I'd say that's also what makes our hobby fun, but sometimes I'd still swap the Californian weather for the drizzle of Blighty... ■

Does the design and styling of your AV hardware matter? Let us know: email letters@homecinemachoice.com

UK-born **Martin Dew** trained as an actor but ended up working for Lucasfilm THX and then NEC in the US. Now, though, he's back in front of the camera



DemoPad: Smart control for all?



With its do-it-yourself interface design and iDevice compatibility, DemoPad offers a tempting gateway to intelligent system operation to those on a tight budget. Or does it?

Richard Stevenson investigates

YOU HAVE JUST got to love touchscreen controllers. Long before we had tablets and phablets, the likes of Crestron and AMX were sticking LCD screen controllers on the walls and coffee tables of well-heeled gadget fans. These enable you to be master of your whole-house custom AV, lighting, heating and home automation systems from the comfort of your sofa. Proper big boys' toys, they are excellent. But excellence doesn't come cheap. Doubly so as the setup and programming of such systems is practised only by fully qualified and certified installers.

In the age of the smartphone and iPad, you probably have several full-colour LCD touchscreen

devices already. So how do you set about turning the humble iPad into a giant universal remote control for your AV and home automation system without spending a fortune? What you need is a programmable app, like iRule, Roomie, Commandfusion or DemoPad, and some method of getting your iPad to interface with devices that are normally controlled by IR signals, RS232 serial commands, 12V triggers, RF, or IP signals over Ethernet cable.

Having messed about with plenty of bargain-priced control apps, I came to DemoPad. It seemed to tick all the boxes and be less prone to hissy-fits. Okay, it's £27.99 rather than free to start with, but it has a professional feel and you don't need to go down the in-app purchase route to make it work.

I had already sourced some Wi-Fi to IR and Wi-Fi to RS232 interfaces from Global Cache when DemoPad announced its Centro8 control centre. This box of tricks takes Wi-Fi commands from your iPad via your router and outputs control signals to 16 individually addressable IR ports, four RS232 ports, four contact closures and hardwired Ethernet. And this made the DemoPad system the obvious choice to seamlessly control of all my AV and home cinema components. It was the one controller to rule them all and in the darkness bind them.

That was the theory anyway. At home, the reality was far more Mordor than a Bag End bash. The sheer man-hours invested in learning, understanding and programming the system, the head-scratching and internet-surfing, evolved over time into abject frustration. The complexities of programming any home control system make for a steep and very tall learning curve. What I needed was a certified

DemoPad uses an iOS device – ideally an iPad – for touchscreen control. Currently, Android isn't an option





DemoPad installer. Better still, I needed to become a certified DemoPad installer...

Strings were pulled with industry contacts and I was duly booked on Stage One of DemoPad's Certified Installer Programme, courtesy of AV and DemoPad trade distributor, Alltrade. Based in Hove in East Sussex, the course didn't get much past the opening introductions and coffee before otherwise-confusing pieces of the DemoPad programming system began to fall neatly into place. It's certainly easier when you have someone who knows what they are doing in the room.

Taking it one step at a time

The workflow of setting up DemoPad and building your controller is relatively straightforward if you take it in small steps. Lots of small steps. For the training session we used an Apple TV device and Sky box. These are two tricky products to integrate into a controller system because, without jailbreaking them, neither provides an IP control interface so you have to use IR remote control codes. We used a Centro8 controller with two of its IR outputs running cables with 'magic eyes' stuck over the IP input of each. Imagining a rack of equipment with IR control cables dangling from the front of each component, you can understand why installers often hide the kit away.

DemoPad is programmed on the company's DemoDesign PC software and the result is pushed to your iOS device as a working interface. This allows you to make changes on the PC then test what works and how it looks on the controller separately. There is no Mac software or Android app at present but several (real) custom installers on the course were using Macs running Parallels Windows emulator successfully. The DemoDesign software

'You probably already have a full-colour touchscreen device – what you need is a programmable app'

uses a tab-based architecture and there are some subtle yet important differences between the home user version and the certified installer version, too. One of the key features being an 'auto-size' function in the pro version which allows your controller build to work on different-sized iOS devices automatically.

Then the fun begins. In the software you start by addressing the corresponding port numbers of your IP interface and direct IP-controlled products. >



The CI-friendly Centro8 features 16 assignable IR outputs and a quartet of RS232 ports

PLANET OF THE APPS...

Check out these DemoPad alternatives

My AV Pro

This Android app is available from the Google Play store for a tempting fee of £4.99, and in particular targets AV receiver owners looking for a control solution that also handles their TV, BD player and set-top box. Uses IP control. Visit www.myav.co.uk for details of device compatibility.

iRule

A free app for Android and iOS, this DemoPad rival requires the additional iRule Builder, which is free for 30 days but commands a fee thereafter. Plenty of flexibility here, including IP, IR and RS232 control, but to get the best out of it you're advised to call in a pro.

Roomie

Available for Apple touchscreen devices only, this universal control app starts with a basic £6.99 fee for control of two IP devices. Additional in-app purchases improve its scope. Updated regularly, Roomie offers support for Sonos, iTunes and Kaleidescape media guides as well as a wide range of hardware.



DemoPad's user interface is fully customisable

Finding out what the port numbers are is the first challenge. Most domestic network products use port 80, most serial devices use port 23 and the majority of Global Cache and Keene IP interfaces use port 4998. Outside of those you are left trying to pin down the port number by mapping your network drive or Googling the answer.

From here you set up a home page with a number of buttons that access subpages, each of which acts as a control page for your individual devices. The standard home pages are fairly basic but you have the option to go for complete customisation if you have the time and artistic skills. The software provides a raft of downloadable icons for key devices (TV, BD deck, AVR, projector etc) under various graphics themes, but you can just as easily use your own JPEG or PNG images. PNG offers better colours and transparent backgrounds, so is the graphics format of choice here.

On each subpage you then build a replica (or variation if it takes your fancy) of the remote control you are trying to emulate. For both the Sky box and Apple TV there are suites of icons available that look remarkably like the original remote buttons. You place each button where you like on the subpage and then allocate a command code to it. DemoPad offers a device library of codes for popular devices, as does the Logitech Harmony website, for example. If you have a few Hokey-Kokey 2000 products in your system then you may need to look to the manufacturer for help. If that fails, then for devices controlled by IR you can learn the IR codes, button by button, using a device such as Global Cache's GC-IRE IR Extender.

After a long day in the training course I had a fairly dull 'off-the-shelf' -style front-end controller with two

subpages that successfully covered the basic functions of an Apple TV and Sky box. It was far from pretty and I had not got close to looking into the functionality of the Centro8, which can create macros of commands and automate features based on time of day or sequences. So, for example, you could power up the AVR and projector, dim the lights and drop the screen automatically as soon as you press play on the Blu-ray controller page.

If you were to build DemoPad controllers on a daily basis they would certainly get better with experience – so a professional will be way ahead of you in that regard, and likely to have designs for an array of popular devices already. Moreover, DemoPad offers a much extended library of graphics and devices for certified programmers and their private forum is full of installers happy to mutually exchange complete build pages. Given the gorgeous graphics and customisation of some of the projects I've seen, I know I am never likely to achieve such design merit on my own.

The choice is yours

Yes, DemoPad is available to D.I.Y. installers and enthusiasts, but unless you have a lot of time, an

artistic flair and unflappable patience, the result probably won't as slick and polished as the images on this page. Sadly these are not my efforts but the work of experienced DemoPad installers. My Sky box page looked like 'My First Remote Control' and lacked many functions of the original physical device. So if I have one take-home message from the DemoPad training course, it is that a good programmer is worth every penny of their fee. By all means try the D.I.Y. option first, but be prepared to swallow your pride and get a pro onboard ■



D.I.Y. installers are catered for by the DemoDesign software and free online tutorials

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'It's a 4D cinema...'

HCC reader **Ryan McDonald** describes his setup as an 'extreme budget home theatre.' But while cobbled together on a shoestring, it also proves there's no substitute for passion



Cash-strapped Ryan McDonald has assembled his AV array for a cost of just £250

The magic happens inside this uninsulated corrugated iron shed



AV-HOLIC RYAN MCDONALD hails from Northern Ireland, possesses a fiendish sense of humour, and is the proud owner of this cinema setup that oozes budget charm. It illustrates that you don't need mega-bucks to enjoy bigscreen, surround sound thrills. In fact, you don't even need more than a few hundred quid if you have a spare shed in the garden.

'I am lucky,' says Ryan. 'To the jealousy of many readers I have a dedicated space for my home cinema, detached from the house and out of reach of the kids. I have a large shed/garage (18ft x 10ft) with the windows blacked out. That really is where the jealousy will end, though.'

The garage was previously full of 'other people's junk' and used for storage. But at the end of 2012, Ryan started to clear it out and prepared to realise his life-long dream of having a dedicated cinema room. But there were always financial considerations at play.

'I should explain that I have no manual skills and even fewer financial resources. I cleaned and painted the roof and walls and put spare carpet down. I bought a Panasonic projector from Gumtree for £60, a Philips surround sound DVD system for £20 (which I used as an amp as the DVD element was broken) and connected an Alba DVD player. I got a wonderful shelving system from IKEA for £17 and a Sony PlayStation 2.'

Ryan's devotion to lost-cost home entertainment was helped when he acquired a tripod projector screen for free. Everything was then plugged via an extension block into one socket. 'This looks like it was fitted in 1954,' says Ryan. 'And the entire cinema room is tastefully lit by sophisticated 1980s shop floor fluorescent strip-lighting.'

Blu-ray, come what may

Since the initial makeover, Ryan has upgraded the AV: 'I have been lucky with my Gumtree





trawls to manage to replace my projector with an Epson EB S02 for £70 and grab an LG Blu-ray surround sound system for £45. Both have been superb, but as the projector is not HD I am not enjoying the full benefits of the Blu-ray deck!

An HD TV is out of the question. 'I am getting to the stage where I am wary to fork out on an HD TV in fear that they are about to go out of fashion. I long for an HD projector but just can't justify the spend and no one is selling cheap second-hand ones for under £200.'

So 4K definitely isn't on the agenda then? 'I am encouraged by the emergence of 4K, but

'Watching *The Thing*, set in the snow, with freezing draughts surrounding me, was breathtaking'

intrigued on how this compares with the capabilities of my ZX Spectrum, which boasted 48k over 30 years ago,' he jokes.

Ryan had also managed to source two sets of double cinema seats for £30 each, originally from a commercial cinema. However, he admits he had underestimated the size and had to move them on. 'At least I was able to help someone else build their dream room...'



The shed is still being used for some storage, so there are dartboards, printers, bicycles, tents and camping gear creeping into the cinema experience. The addition of another baby has also meant the shed is being called up to accommodate anything in the house surplus to requirements. Ryan remains stoic: 'On the plus side I have inherited a footstool and coffee table.'

Perfect for chillers

Ryan counts *The Dark Knight* as his current favourite disc in terms of all-round cinematic flair, but exactly how often does this film fanatic make use of the space? Not as much as he would like. 'I am only able to use the cinema for a few months as I cannot afford to insulate the walls and roof or put up plasterboard. For around nine months of the year it is freezing out there.'

But he does brave the elements sometimes, with interesting results. 'Watching the 1982 *The Thing* set in the snow with freezing draughts surrounding me was quite literally breathtaking. *Twister*, although not a great movie, was equally enjoyable as several times I thought the corrugated iron roofing was going to lift off with the real-life winds echoing around.'

Ryan also says that trees scraping on the external walls, birds and cats running along the roof and his neighbour's dog howling provided a '4D' experience for horror movies such as *The Haunting*, *The Descent* and *The*



Before decking out the shed with sofa and chairs, AV equipment and TV and film posters, Ryan had to clear away some other bits and bobs...

Woman in Black. But some of that 4D feeling has been lost since one of his neighbours 'selfishly' cut down the 25ft tree. 'However, they are now able to enjoy all of the screams and roars from my subwoofer without the tree blocking any noise. I was surprised that the tree came down without crushing my timber-frame garage.'

And he still gets another level of interaction. 'As the garage isn't used for half of the year it does attract some creatures. Imagine watching *Arachnophobia* with spiders literally coming out of the woodwork. I am planning to watch *Showgirls* soon and fingers crossed for the same features...' ■

BE IN HCC!

EMAIL US: If you want to share your home cinema setup with other readers, email a selection of hi-res pictures (including one of yourself if you want) to letters@homecinemachoice.com with the subject heading 'AV-Holic', and we'll be in touch.

Home cinema

Which sort of visual system do you go for? Projector and screen, or plasma, LCD or LED TV? 3D or non-3D?

Choosing a home cinema system is a potential minefield that must be negotiated with great care or safely avoided by letting experts guide you. If you want to end up with a system that, as a minimum, meets your expectations in terms of picture and sound quality, reading magazine product reviews and choosing the recommendations, five-star favourites or best buys can only ever be part of the answer at best. Looking for the cheapest price and having a system delivered to your door, even with a 'knowledgeable' friend to help set it up, is a well-trodden path to disappointment.

There is a bewildering choice of components on the market today and also different ways in which components can be installed and connected together. Which sort of visual system do you go for? Projector and screen, or plasma, LCD or LED TV? 3D or non-3D? Full 1080p capability is now the only sensible choice but the appropriate source components, such as a Blu-ray player, need to be part of the equation.

The sound performance of a system is also hugely important, even more so if you will be listening to music, or music DVD's, through the same system. If so, you need an amp that approaches the performance

of a decent 2-channel hi-fi amp, which is not that easy to find. Having an amp with the right inputs for the best connectivity is essential but you will also need to decide on a 5.1 or 7.1 speaker system, passive or active sub and, crucially, where they will be sited for the best results. In short, it's complicated and very fertile ground for getting it wrong.

Achieving potential

To select a system, you could choose a collection of 'Best Buy' components in the hope that they will be a great combination. Maybe, but probably not. You could buy a pre-packaged all-in-one system from one manufacturer. This is almost certainly not the best route either, as you will miss out on enormous potential. From informal surveys conducted, it appears highly likely that the majority of home cinema systems

selected and installed on a DIY basis (that is without professional input) are performing at way below their optimum level. To compound matters, most are also ill-matched to the room in which they are installed and are, in reality, the wrong system. Without considerable knowledge or experience, high quality home cinema is not a suitable DIY activity. Our aim must be to buy a home cinema system that will provide an excellent picture quality plus an audio delivery that will match, or even better, the commercial cinema experience. It must be exciting, reliable and deliver true value for money.

“ Home cinema
so good you'll believe
you're there! ”



Selecting and installing
home cinema on a
DIY basis may leave
the system performing
at way below its
optimum level.

Confused ?

What and Where to buy

To ensure a home cinema system is right for you, where do you start? Here's an important tip ...don't start with WHAT, start with WHERE. There's only one way to give yourself the best chance of getting it right first time, and that's through a specialist AV dealer. It's possible you have preconceived ideas that put you off visiting one. Although you would welcome the advice and guidance, you don't know the technical jargon. You don't want to be talked down to. Your friend has said they only sell expensive gear and they're not interested if you don't have a big budget. They're expensive. These are just myths.

Most specialist AV dealers are running their business because, above all, home cinema is their hobby. They spend a large portion of their time comparing systems to get the best possible results. They know the component combinations which don't gel together and, conversely, they know the combinations which give the best performance within a given price range. Very importantly, they know how to get a system working to its optimum. But they all also know the system must suit you.

Buying or being sold to

There are dealers around, web based or otherwise, who will sell you anything you are willing to pay for. They may be a bit cheaper but that's all they offer. Now there's a carefully selected group of long-established specialist dealers who are totally committed to putting the customer first. Their idea of 'selling' is to discuss your requirements, offer their advice, give you the best options, then play the systems for you and allow you to be the judge. You'll probably be surprised and, almost certainly, relieved to discover how easy it is to see and hear the differences between components and between systems. You'll be able to make a clear and informed decision about what to buy.

The story doesn't end there. These shops won't abandon you once you've put your hand in your pocket. They won't leave you to set up the system you've selected as best you can. They'll install it in your home, make sure it performs to its best, and ensure you're entirely happy with the way it works. Why? Because a high proportion of these dealers' custom comes through people who have bought from them before, either directly or by recommendation. It's vital to them to get it right for you.

Getting the best deal

Unless you've got money to burn, you'll be living with your new system for years. Most of these dealers offer much longer equipment guarantees than provided by the manufacturer, a very worthwhile benefit, but it also makes it in the dealer's interest to ensure high build quality and reliability. Maybe you could save a few pounds by buying piecemeal but you'll lose out on the overall package. As far as the dealers are concerned, they believe that taking care of their customers properly is a far better way of doing business than just handing over boxes.



The Dealers listed below have been selected because they are known to do an excellent job in guiding customers towards home cinema systems that will provide years of superlative performance and total satisfaction.

Our Top20 AV shops in the country

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Chelmsford

RAYLEIGH HI-FI SOUND & VISION

216 Moulsham Street. 01245 265245
www.rayleighhifi.com

Kingston-upon-Thames

INFIDELITY

9 High Street, Hampton Wick.
020 8943 3530
www.infidelity.co.uk

Maidenhead

AUDIO VENUE

36 Queen Street. 01628 633995
www.audiovenue.com

Norwich

MARTINS HI-FI

85-91 Ber Street. 01603 627134
www.martinhifi.co.uk

Rayleigh, Essex

RAYLEIGH HI-FI SOUND & VISION

44a High Street. 01268 779762

CUSTOM INSTALL DEPT.

01268 776932
www.rayleighhifi.com

Southend-on-Sea

RAYLEIGH HI-FI SOUND & VISION

132/4 London Road. 01702 435255
www.rayleighhifi.com

Tunbridge Wells

KENT HOME CINEMA

69 London Road, Southborough.
01892 535007
www.kenthomecinema.co.uk

LONDON

Ealing

AUDIO VENUE

27 Bond Street. 020 8567 8703
www.audiovenue.com

N1 GRAHAMS HI-FI

190a New North Road. 020 7226 5500
www.grahams.co.uk

SW11 ORANGES & LEMONS

61-63 Webbs Road, Battersea.
020 7924 2040
www.oandlhifi.co.uk

MIDLANDS

Coventry

FRANK HARVEY HI-FI EXCELLENCE

163 Spon Street. 024 7652 5200
www.frankharvey.co.uk

Nottingham

CASTLE SOUND & VISION

48/50 Maid Marian Way.
0115 9584404
www.castlesoundvision.com

Solihull

MUSIC MATTERS

93-95 Hobs Moat Road.
0121 742 0254
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2 Gillygate.
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Feedback

Got an axe to grind? Need to comment on current technology?
Want to share your knowledge with our readers? **HCC** is here to help

I'm ready for Atmos!

An interesting article in your recent issue about Dolby Atmos, and it's got me thinking about an upgrade. At the moment I have a 5.1 speaker setup in my living room, using Monitor Audio Radius models. As much as I want to have 7.1 there just isn't the room behind my sofa. Rear speakers would be positioned so close to our heads that I'm pretty certain the effect would be too noticeable to the detriment of the rest of the surround sound.

So I'm thinking of a new receiver and some 'upfiring speakers' to add to my existing 5.1 system. Will you be reviewing the new Denon AVR-X4100W and the Onkyo TX-NR838? And do you know if Monitor Audio has



Denon's AVR-X4100W: 5.2.2 Atmos ready

plans to release Dolby Atmos add-on speakers?
Craig M, via email

Mark Craven replies: I think your situation will be common Craig, as we know that standard 7.1

hasn't been viable for a number of people without undertaking serious furniture re-arrangement. As you say, space behind the listening position is often limited. Atmos upfiring should be a simpler option.

Will we be reviewing the Onkyo TX-NR838? We will and we have – see p50 for Steve May's verdict on this £1,000 receiver. And, yes, the Denon AVR-X4100W will be on test in our very next issue.

★ STAR LETTER...

I'm an IMAX fan – and Dolby Atmos has turned my head

Watcha guys. I have just read your brilliant article on Dolby Atmos in *HCC* #239.

I first experienced Dolby Atmos a while back at the Empire Leicester Square when it was showing *Star Trek Into Darkness* and was blown away by the sound. Since then the cinema has shut down the main large screen and totally renovated it into two separate, smaller screens. One of the theatres is now a fantastic-looking and sounding IMAX (a format which I've been a big fan of for a long time). The second screen that's opened is called Impact, which is actually Dolby Atmos. I went to see *Dawn of the Planet of the Apes* there and once again was totally blown away by how enveloped in sound you are.

I've now seen *Guardians of the Galaxy* in both the IMAX and Dolby Atmos screens at the Empire Leicester Square and I can't believe I'm saying this as a huge IMAX fan, but the Dolby Atmos experience is better.

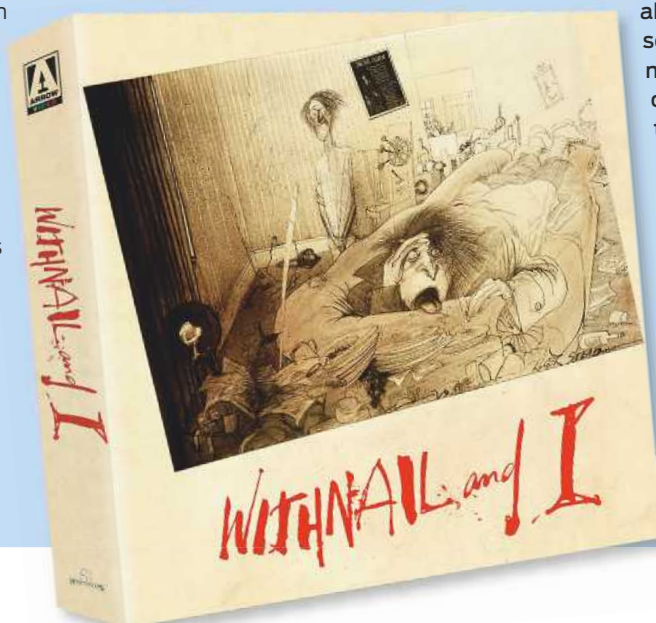
So bring on Dolby Atmos for the home!
Lee Regan, via email

Mark Craven replies: When the Empire Leicester Square chose to close down its gargantuan Screen One and split it in two there was plenty of grumbling amongst the movie-going community, not least because there's a perfectly good IMAX

cinema over the river at Waterloo, and until that point Screen One had been running London's only Dolby Atmos array. Thankfully, it's been back up and running for a good few months.

Your letter has got me thinking, though, about the number of Atmos screens in the UK. While US movie-fans are reasonably well catered for, there really aren't that many over here. Going by the information on Dolby's own website, which I assume is up-to-date, there are next-gen theatres now in Birmingham, Derby, Nottingham, Llanelli, Leeds, Gateshead, Cramlington, Glasgow and two in London, including the Empire Leicester Square. If anyone knows of any more, please get in touch.

What this means is that home cinema fans who





Is this what Team HCC's Richard Stevenson will look like in 20 years?

As for add-on speakers from Monitor Audio: as yet, the company hasn't announced any new enclosures that are Atmos-enabled. Brands that have, at the time of writing, are Teufel, Definitive Technology, Onkyo, KEF, Triad and Atlantic Technology. However, we're

choose to upgrade are in the position of being able to enjoy Dolby's new audio technology (if more Blu-ray releases appear, of course), while the rest of the population faces a bit of a famine. Atmos cinema releases are coming thick and fast, but there aren't enough seats!

On the other hand, it means that the AV industry that's hoping to sell Atmos hardware to the public needs to get demo facilities in place, as many people (those living in East Anglia, for instance) may never have even heard it...

Star letter-writer Lee Regan wins a copy of the *Withnail and I* Limited Edition Dual-Format Blu-ray and DVD boxset, which is available to buy from October 20 courtesy of Arrow Video.

certain that more speaker brands will get onboard over the next year, as there really seems to be (for once) a concerted drive in the industry to provide plenty of Dolby Atmos options.

I'm ready for Atmos, but...

The recent announcement of Dolby's forthcoming Atmos must have caused outbreaks of 'upgrade-itis' in many households. The minimum upgrade appears to be the purchase of an Atmos capable receiver and two speakers. I wonder, however, whether there is another route for punters like myself with 5.1 systems using 7.1 receivers. My present receiver is a Yamaha RX-V775 which performs well (for my ears at least). I'm wondering whether it's likely that the manufacturers will be offering software modifications to convert my redundant two channels to Atmos streaming. This would seem to be a very practical solution to the upgrade. It may, of course, be impractical from a cost point of view or the manufacturers may prefer to sell lots of lovely new receivers. Your comments will be appreciated.

Keith Arnold, via email

Mark Craven replies: Unfortunately, Keith,

retrospectively adding Dolby Atmos support to a 2013 AV receiver isn't an option. And we asked Yamaha's AV product specialist Chris Wray for an official explanation why: 'In a nutshell, it's near impossible to firmware upgrade a non-Atmos enabled AV amp to fully support the full-whack Atmos soundtracks. This is largely down to the new Atmos format requiring the amplifier to have a Dolby 'renderer' on board that can decipher what the soundtrack is supposed to do with the audio objects moving around in 3D space.

'Of course, any Atmos content that comes out is going to use the TrueHD codec anyway, so the soundtrack will still play through the amplifier as it stands right now, but will not give you the Atmos channels, just a regular 5.1 audio track.'

If you don't want to swap out your AVR, Chris suggests investigating Yamaha's CinemaDSP technology with a pair of presence or 'height' speakers. This won't give the same effect as Atmos, but would add another layer to your soundstage 'You could also utilise the CinemaDSP effects with DTS soundtracks, and even stereo as well, to give a massive

soundfield and hugely immersive cinema experience.'

Sequels that don't suck

Last issue's 'Playback Extra' feature about movie sequels [*The 22 Best Movie Sequels on Blu-ray*] was missing a few obvious choices! I agree that the likes of *Empire Strikes Back*, *Aliens*, *Terminator 2* and *Mad Max 2* are all great sequels, but how can you include *Predator 2* and not include *Back to the Future 2*? It's a classic movie that ties the whole trilogy together.

Graham Lambe, via email

Anton van Beek replies: *Back to the Future 2* was certainly on our early list, and if we'd had more space we would have included it. In fact, considering the quality (and wealth of extras) of the region-free trilogy Blu-ray set, perhaps we definitely should. Maybe in place of *Predator 2*.

Build quality matters

Is sound and picture quality that important? Well, of course it is, and I'd be the first to argue the case. Anyone who viewed an early flatscreen TV or listened to even a good-quality cassette tape will know that almost all of today's equipment gives excellent performance. Terrific

improvements have been achieved by the industry.

Sure, there are differences between different brands, and it's one of the reasons why I continue reading *HCC* each month. But for many, performance differences between brands are not the only consideration: unlike your reviewers, we're not constantly swapping equipment around and being subject to very subtle differences which may not matter much anyway. For me at least, I am increasingly concerned not just with sound and picture quality but by the reliability and durability of modern equipment.

And these days that doesn't just depend on the hardware, but the software too. I have had good and bad experiences at opposite ends of the market. These range from expensive amplifiers and CD machines which have failed prematurely and early digital TV recorders whose software can no longer be updated to meet current broadcast standards, to good

experiences with even some of the cheapest equipment (for example the £10 Sky Now TV box which, with recent software updates, can now access all of the main catch-up TV services and has a vastly improved UI).

So there are two points I'd like to make. The first is, is it possible to give some indication in your reviews in respect of how well built your tested items are – do they use conservatively rated components, or – for example – do they have transistors running at high temperature which may fail at a moment's notice, usually a month after the warranty has expired? Does the manufacturer concerned offer good service and support, or do they rely on the retailer to take care of issues?

And the second point is, maybe your reviewers should revisit equipment following major software revisions. I've already mentioned the improved Now TV box, but equipment provided for all of the main TV viewing platforms (Freeview, YouView,



Freesat, etc) is getting better all of the time with fewer bugs and more functionality. I think *HCC* should keep abreast of these changes, some of which are so significant that they render your initial test invalid.

Lawrence Pearce, via email

Mark Craven replies: Firmware updates certainly do complicate the reviewing process! Obviously, our hardware reviews are based

Sky TV enjoyed UI changes this year

on what we have in front of us, which is the best system the manufacturer or service can offer at that time. And sometimes we will wait until a specific update has happened before looking at a product that may have already been on shelves.

Revisiting products after updates that have occurred

Win! Three great Blu-rays up for grabs

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Oculus

Mirror mirror on the wall, is this the scariest film of them all? Find out for yourself when this creepy tale of a haunted mirror makes its debut on DVD and Blu-ray on October 20, courtesy of Warner Home Entertainment. To celebrate the spook-tacular release, we've got five copies of the Blu-ray up for grabs!

Question:

Oculus star Karen Gillan played which character in TV's *Doctor Who*?

Answer:

A) River Song B) Veronica Lake C) Amy Pond

Email your answer with '**Oculus**' as the subject heading – and include your postal address!



3 Days to Kill

Kevin Costner and Amber Heard star in this action thriller about a retired CIA agent living with a terminal illness who is offered a potential cure in exchange for one last job. *3 Days to Kill* explodes onto DVD and Blu-ray on October 20, and thanks to EntertainmentOne we've scored five Blu-rays to dish out.

Question:

3 Days to Kill director McG helmed bigscreen updates of which 1970s TV show?

Answer:

A) Charlie's Angels B) Mission: Impossible C) The Brady Bunch

Email your answer with '**3 Days to Kill**' as the subject heading – and include your postal address!



Walking on Sunshine

Add a little romance and music to your life with this British comedy from the makers of *Streetdance* that has been described as 'the feel-good film of the year.' Released on DVD and Blu-ray on October 20, we've teamed up with EntertainmentOne to give away five copies of the hi-def version.

Question:

Walking on Sunshine was a hit in 1985 for which English rock band?

Answer:

A) Katrina and the Waves B) The Cure C) Siouxsie and the Banshees

Email your answer with '**Walking on Sunshine**' as the subject heading – and include your postal address!

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months or even years later isn't always an option, for the (obvious) reason that we no longer have access to the hardware. And there are new products to be tested too that, for most people, will take precedence.

We make an effort to flag up product overhauls in our news section, and do revisit the most popular platforms (such as Sky) when we think it's necessary.

As for the reliability and durability of kit, again this isn't the easiest element for our reviewers to judge. We have no way of knowing whether a product will pack in 'a month after the warranty has expired,' and it would be unfair for us to suggest it might. Of course, if something feels poorly put together, we'll tell you.

Where are my Smart apps?

Over a year ago I bought an LG Blu-ray deck with Smart how's-your-father and it works fine.

At the time it only had the BBC iPlayer catch-up, but the salesman said it was sure to add the other TV catch-up services before long and the software would update. Well, the software has updated several times to include apps for Netflix and so on. However, there's no sign of 4oD or ITV Player.

How come? Do the TV manufacturers have to pay to include these apps? They are free to download to computers after all!

If LG is never going to go beyond BBC iPlayer in terms of TV catch-up I think we should be told – this is an important defect

compared to other TV brands which include all the TV catch-ups.

I know I can do all this on my computer and hook it up to the TV, but then I wouldn't require a Smart TV (or Smart Blu-ray player) in the first place.

Jonathan Blane, via email

John Archer replies: One of the great things about Smart platforms, be they on TVs or Blu-ray players, is that they can be updated. And one of the annoying things about them is when they aren't.

You say the other TV manufacturers all include the TV catch-ups in their Smart services. This isn't actually the case. Sony is in the same 'no ITV Player/4OD' boat, as are Toshiba and Philips. Only Samsung and Panasonic now offer these services on their TVs – and Panasonic has incorporated Freetime to achieve this.

It's been hard to get a straight answer from anyone on this issue concerning why some brands have them and others don't. From what I can best gather, though, ITV and 4OD do indeed want financial contributions for their catch-up apps (if I'm wrong, please tell me!) which I assume some brands refuse to play ball with. There are no longer, so far as I am aware, any exclusive deals in play.

Passive soundbars

As a regular reader of your magazine and being a keen movie viewer I am always on the lookout for ways to improve my viewing pleasure.



The Alumni 3 soundbar is a passive model, so needs an amp to drive it

My setup comprises an LG 47in TV, a Marantz slim-line AV receiver, Panasonic BD player and Digital Stream PVR. Until recently I have had a conventional 7.1 speaker setup using a Yamaha NS-P110 package for centre and surround duties with a pair of Wharfedale Diamond 9.0s for front left/right.

I have never felt the sound balance has been satisfactory and have tried other combinations of speakers, but the dialogue and front soundstage has always seemed crowded and muffled. Looking to improve on this I started to look at soundbars, often up for review, but they are all active units, not compatible with a full surround setup.

My next step was to see if anybody made a passive soundbar, never having seen or heard of one. To my delight, I came across a number of such units online. In the end I took the plunge and ordered a Mordaunt-Short Alumni 3 and connected it up. No big speakers on stands next to the TV and no trailing lengths of ugly cable.

What can I say? The results from this one change are a

revelation: clear dialogue from the centre, front soundstage is smoother with clear separation across the three channels, and the surrounds really come alive.

Tim Wardlaw, Lincoln

Mark Craven replies: Thanks for the letter, Tim. We've tested a couple of passive soundbars in the past, and Richard Stevenson has one in his living room setup, but perhaps it's an area that we should have another look at.

Summer of silliness

Anton van Beek's latest column [*Film Fanatic*, HCC #239] about the Summer's blockbuster movies only goes to show how much Hollywood has run out of ideas. I'm not interested in another *Transformers* movie or the *Teenage Mutant Ninja Turtles* – where are the crime films and thrillers of the 'olden days'? Thank God for my disc collection! *Daz, via Facebook*

Anton van Beek replies: We still get crime films and thrillers, *Daz*, but they're released over the Winter, leaving the Summer free for tent-pole blockbuster movies. For instance, *Taken 3* will be released in January 2015. And it's been that way for a while, actually – remember *Heat* in 1995? That was released in December of that year ■



Heat: a classic Christmas movie?

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FILM FRANCHISE

Friday the 13th

We take a trip to Crystal Lake to investigate the legacy of this enduring horror series...



Jason felt strangely at home when he stopped off at Madison Square Gardens during his 1989 visit to New York...

BORNE OUT OF the success of John Carpenter's 1978 box office smash *Halloween*, the 'seasonal slasher' came to dominate the horror genre during the following decade – there wasn't a holiday or special event around that didn't have its very own cinematic serial killer. And the undisputed king of them all is the *Friday the 13th* franchise's mask-wearing madman, Jason Voorhees.



Of course, as horror fans well know, Jason barely featured in the first *Friday the 13th*. In that movie he was nothing more than a motivational backstory for his mum's murderous rampage, plus a final *Carrie*-inspired scare to keep the audience on its toes. But with the film generating massive piles of cash as the box office – and Mrs. Voorhees definitively out of the equation – the focus shifted to Jason instead.

Making a killing

It was a canny decision; one that enabled Paramount Pictures to release seven sequels into cinemas during the following decade (as well as producing a completely unrelated in all-but-name TV series). Only when the embarrassment of being associated with the franchise started to outweigh dwindling profits did the studio finally call a halt.

Keep a weapon handy if you go to Crystal Lake



Smallscreen scares: It may not have featured Jason Voorhees, but *Friday the 13th: The Series* still managed to scare up some top-tier directing talent, including David Cronenberg and Atom Egoyan.

Behind the mask: Kane Hodder is the only actor to have played Jason more than once, donning the mask for *...The New Blood* (pictured), *...Jason Takes Manhattan*, *Jason Goes to Hell* and finally *Jason X*.



But there was to be no stopping Jason Voorhees. Enter New Line Cinema, which had long dreamed of teaming him up with its own horror icon Freddy Krueger. While their eventual pairing didn't occur until 2003, New Line kept Jason alive in the meantime with two more sequels, including a trip into space...

The horror heavyweight returned in 2009 in a modern remake, but since then: nothing. However, in recent months, rumours have started swirling about both a new film and a new TV series. So Jason could 'live' again.

PICK OF THE BEST...

1 Jason Lives: Friday the 13th Part VI
Having killed off Jason and then replaced him with a copycat killer, where next for the franchise? Bring him back as a zombie, obviously! Writer-director Tom McLoughlin's entry is an absolute hit – mixing all the mayhem aficionados crave with a knowing sensibility that pokes fun at its own stupidity.

2 Friday the 13th: The Final Chapter
In many ways this is just the same-old shtick, with Jason slaughtering yet more generic teens. But it's elevated by some of Tom Savini's best gore effects (particularly Jason's demise) and a better than expected cast, including Corey Feldman and Crispin Glover.

3 Freddy vs. Jason
First mooted by Paramount and New Line back in 1987, the two titans of terror finally came to blows on the bigscreen in 2003. The resulting no-holds-barred supernatural slobberknocker was clearly what fans wanted, pulling in an impressive \$115m at the box office.

AND THE WORST...

Jason Goes to Hell: The Final Friday
There are some who will argue that *Friday the 13th: A New Beginning's* Jason copycat was as low as the series could sink. They've clearly forgotten all about this 1993 turkey, which tried to re-imagine Jason as a body-hopping demon. Even some inventive gore effects (in the uncut version) couldn't save this stinker.

COLLECTIBLES

No self-respecting *Friday the 13th* fan can afford to miss out on these...

NECA Jason Mask Prop Replica



Replica hockey masks are a dime a dozen, but they don't get any better than NECA's 1:1 scale resin replica of Jason's damaged mask from *Friday the 13th: The Final Chapter*.

Crystal Lake Memories



Author and film fan Peter M. Bracke delivers the definitive history of the franchise with this exhaustively-researched coffee table book. Fans should also import the region-free US Blu-ray of the six-and-a-half hour tie-in documentary of the same name.

NECA 25th Anniversary Boxed Set



Released in 2007, NECA's deluxe \$70 set includes action figure replicas of both Jason and Pamela Voorhees, as well as the shrine Jason had to his dearly departed mommy in *Friday the 13th Part 2*.

Friday the 13th videogame



This 1989 game for the traditionally family-friendly NES (Nintendo Entertainment System) console gave players control of one of six camp counsellors trying to stop Jason while dodging deadly zombies, wolves and crows!

THE ULTIMATE COLLECTION...

The very best of *Friday the 13th* available to buy on Blu-ray and DVD...

Jason Goes to Hell: The Final Friday [rated & unrated]

(R1 DVD – US Import)

Jason X (R2 DVD)

Friday the 13th [1980] (R2 DVD)

Friday the 13th: From Crystal Lake to Manhattan – Ultimate Edition DVD Collection

(R1 DVD – US Import)

Friday the 13th [2009]

(All-region BD)

Freddy vs. Jason

(Region B BD)

Friday the 13th: The Original Movie [1980] (All-region BD)

Friday the 13th: Ultimate Collection – Limited Edition [with hockey mask]

(R1 DVD – US Import)

Friday the 13th [2009]/A Nightmare on Elm Street [2010]/Freddy vs Jason – Triple Feature

(All-region BD – US Import)

Crystal Lake Memories: The Complete History of Friday the 13th

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PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **300: RISE OF AN EMPIRE 3D** Stereoscopic swords 'n' sandals sequel battles its way onto Blu-ray **OCULUS** Karen Gillan doesn't like what she sees in the mirror **THE AMAZING SPIDER-MAN 2 3D** Superhero franchise continues to weave its web in your home cinema **DESTINY** The makers of *Halo* set their sights on conquering next-gen consoles **AND MUCH MORE!**

Up from the depths

Godzilla 3D → Warner Home Entertainment
→ All-region BD

Can Hollywood's second attempt at tackling Godzilla succeed where Roland Emmerich's 1998 version failed? Find out as we get to grips with Gareth Edwards' stereoscopic monster-mash on p98.



HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

'Come and have a go if you think you're hard enough!'



The Persian empire strikes back

It's more of the same from Snyder's swords 'n' sandals franchise – so great news for AV-hedz!



Ironically, the real Themistocles ended up living in Persia as a governor



→ 300: RISE OF AN EMPIRE 3D

Arriving eight years after Zack Snyder's surprise box office hit, Noam Munro's *300: Rise of an Empire* serves as not only prequel and sequel to that film, but also a 'side-quel' depicting another battle that took place while the Spartans clashed with Persian forces at Thermopylae. As such, the focus of the film shifts to Athenian warrior Themistocles (Sullivan Stapleton), who leads the relatively small Grecian navy against the might of Persian warships led by the ferocious Artemisia (Eva Green).

If this all sounds a little reminiscent of the first flick, that's because it is. *300: Rise of an Empire* really is just more of the same – right down to Munro aping every element of Snyder's exaggerated comic book aesthetic. Which is, no doubt, great news for fans.

However, other viewers may find it harder to get past the repetitive visual trickery (so much slo-mo!), gigglesome homoeroticism (not helped by the least convincing sex scene you'll ever watch) and downright dodgy sexual politics (there's not a woman in sight who hasn't been raped at some point in the franchise). In other words, *300: Rise of an Empire* is the very definition of big dumb filmmaking – but at least it frequently leads to spectacular material to feed your home cinema...

Picture: The Blu-ray's stereoscopic MVC-encoded 2.40:1 1080p transfer is absolutely gorgeous. The complete fidelity to the film's heavily-stylised gold- and blue-hued imagery means that it rarely appears razor-sharp, but that's how it's supposed to look. Otherwise, blacks are invitingly deep, contrast is spot-on and the 3D is employed convincingly throughout to give an even greater sense of scale and spectacle to the action sequences.

The 2D AVC 2.40:1 1080p encode (presented on a separate platter) looks even more refined, with a notable uptick in brightness over the 3D version – although some of the more frantic fight scenes appear a little more cluttered in this version, lacking the clean sense of separation inherent in the stereoscopic encode.

Audio: The film's DTS-HD MA 7.1 mix offers a *tour de force* of bone-crunching bass and furious surround effects that really brings the battles to life. Directionality and panning are particularly impressive, a healthy dynamic range is maintained and – somehow – despite all of the clanging swords, the dialogue never gets lost.

Extras: As well as the film, the 2D platter offers up eight enjoyable featurettes. The best and most substantial of these is the 23-minute *Real Leaders & Legends*, which explores the historical events behind the story.

HCC VERDICT

300: Rise of an Empire 3D

→ Warner Home Entertainment

→ All-region BD → £28 Approx

WE SAY: Impressive 3D visuals and a barnstorming 7.1 mix make for a bloody good home cinema experience

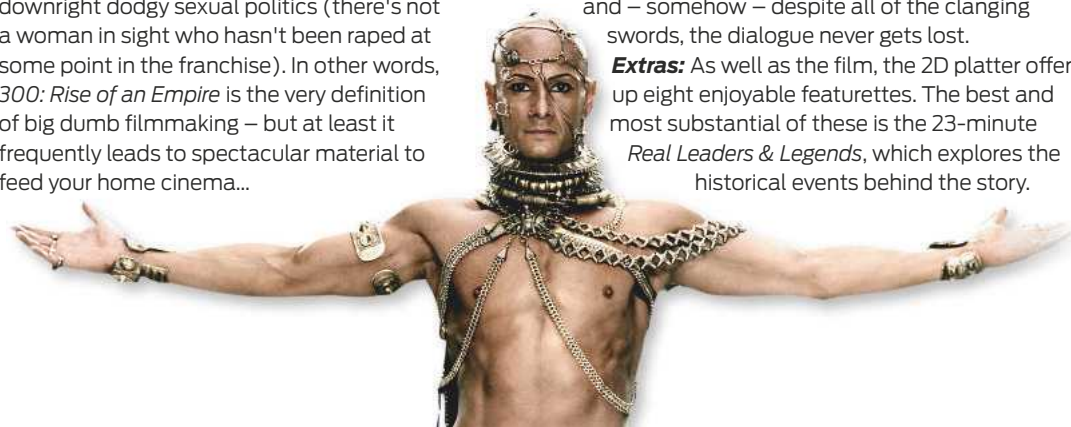
Movie ★★☆☆☆

Picture ★★★★★

Audio ★★★★★

Extras ★★☆☆☆

Overall ★★★★★



Wolfcop

StudioCanal → Region B BD
£23 Approx



As many filmmakers have discovered, horror comedies are extremely tricky things to get right. That this low-budget

flick about an alcoholic cop who actually gets better at his job after becoming a werewolf gets more right than wrong is testament to both the people involved in making it and the goodwill engendered by its ridiculously fun set-up. This BD sports vibrantly coloured and pristinely rendered 1.78:1 Full HD visuals alongside a playful DTS-HD MA 5.1 soundtrack. Extras include promo videos and an engaging 46-minute *Making of...* charting the film's unusual route to the bigscreen.



Bad Neighbours

Universal Pictures → All-region BD
£25 Approx



Seth Rogen, Rose Byrne and Zac Efron star in this inspired comedy about a young couple with a newborn baby

forced to live next door to a raucous off-campus frat house. Mixing big belly laughs with acute observations about the anxieties that accompany the journey to adulthood, *Bad Neighbours* is one of the year's funniest films and (refreshingly) doesn't outstay its welcome thanks to a brisk 97-minute running time. In addition to attractive 1.85:1 imagery and powerful DTS-HD MA 5.1 sonics (just check out those party scenes), Universal's Blu-ray serves up some fun bonus bits.



Frank

Curzon Film World → Region B BD
£23 Approx



Between this and *Inside Llewyn Davis*, 2014 is shaping up to be a good year for movies about troubled musicians.

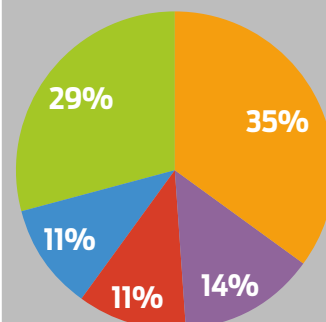
While the Coens' flick won the major critical plaudits, we had more fun with this deeply weird, yet curiously affecting, satire exploring the distinction between talent and fame. It certainly doesn't hurt that *Frank* arrives on Blu-ray with an intricately rendered 2.40:1-framed 1080p encode partnered with a boisterous DTS-HD MA 5.1 mix that comes into its own whenever the music starts up. Informative extras include a 13-minute *Making of...* and two audio commentaries.



WE ASKED...

Which of the following sequels are you most excited about?

■ Avengers 2
 ■ Terminator 5
 ■ Batman vs Superman
 ■ Rambo 5
 ■ Star Wars Ep VII



Results from www.homecinemachoice.com
Go online for more polling action



Mirror mirror on the wall...

Mind-bending fright flick takes you on a journey through the looking glass

→ OCULUS

From Robert Hamer's entry in the classic portmanteau chiller *Dead of Night* to Kim Sung-ho's South Korean shocker *Into the Mirror*, the notion of a haunted mirror is one that just keeps cropping up in the horror genre. Writer-director Mike Flanagan is the latest to 'reflect' on the concept, with this smart and scary feature-length expansion of his 2006 short *Oculus: Chapter 3 – The Man with the Plan*.

Smarter than most mainstream frighteners, Flanagan's film succeeds by eschewing the usual trappings of the genre. Instead of cheap jump scares and gratuitous gore (not that there aren't a few nasty tricks up its sleeve), *Oculus* heads off in a much more creative direction; its narrative plays out across two time-lines that become increasingly entangled and confused as the story progresses. All the while, it builds towards a mind-bending and emotionally-shattering conclusion that finds the two main characters (played to perfection by Karen Gillan and Brenton Thwaites) trying to work out whether what they're experiencing is real or simply a twisted reflection of a childhood trauma. Recommended.

Picture: *Oculus* features a suitably gloomy AVC 2.40:1 1080p encode. Colours are fairly muted for the most part, favouring Autumnal tones, although there are a couple of brightly-lit exterior scenes that have a little more pop. Thankfully, despite the overall darkness of the image, the bulk of the transfer exhibits excellent clarity and sharpness, ensuring close-ups are still packed with detailing.

Audio: While undoubtedly not as enveloping as the film's original 11-channel Auro mix (although we



Karen Gillan shot to fame as Amy Pond in *Doctor Who*

never heard that), there's a lot to enjoy about this Blu-ray's DTS-HD Master Audio 5.1 soundtrack. Like any good horror film, the sonic engineers make frequent use of every speaker in the setup to create a palpably spooky atmosphere, while directional effects are delivered with precision. The subwoofer isn't left to sit idly by either, with rumbles of deep bass accompanying the majority of the film's scares. **Extras:** In a word: disappointing. The one saving grace is the inclusion of Flanagan's original short film (32 minutes), which makes for fascinating viewing in comparison with the feature version. Otherwise, the only other extras are the rather perfunctory *Inside the Mirror: Creating Oculus* featurette (10 minutes) and six deleted scenes (10 minutes).

Unfortunately, it appears that Warner either wasn't willing or able to include the chat-tracks for the feature film, the short and the deleted scenes that appeared on Fox's earlier US disc.



HCC VERDICT

Oculus

→ Warner Home Entertainment

→ All-region BD → £25 Approx

WE SAY: Extras may be in short supply, but on reflection *Oculus* is still a smart and scary Blu-ray chiller

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★☆☆☆

Overall ★★★★★



The commute to work was going to be worse than ever today...

DISC
OF THE
MONTH

The king of the monster movies?

Blockbuster creature-feature roars onto Blu-ray with a reference-quality 7.1-channel soundtrack



→ GODZILLA 3D

Hollywood's second attempt at bringing Godzilla to the bigscreen avoids the (many) pitfalls that befell Roland Emmerich's terrible 1998 effort. However, this hasn't stopped this new reboot from stumbling into a couple of its own making.

Returning to the original idea of its titular character as a nuclear-powered force of nature, *Godzilla* positions its human cast as spectators in a battle between the beast and the new-made M.U.T.O. (Massive Unidentified Terrestrial Organism). This allows director Gareth Edwards to build on the techniques he developed for his 2010 debut *Monsters*; the action is viewed from humanity's point of view, with the monsters themselves frequently obscured by the destruction they cause and their sheer scale.

It's not a bad idea and goes some way to bringing a little mystery back to the franchise. The trouble is that the character who acts as the audience's primary viewpoint into the film (Aaron Taylor-Johnson's bomb disposal expert) just isn't very interesting, and the contrivances needed to ensure that he's always where the action occurs sometimes beggars belief. The supporting cast is packed with actors like Bryan Cranston, Ken Watanabe, Sally Hawkins and Juliette Binoche – any one of whom could have improved the human element that dominates so much of the film had they only been given more screen time.



Picture: While *Godzilla* wasn't shot in native 3D, the conversion here works pretty well, thanks to the film's vast amount of green-screen and digital VFX. This is evidenced by the Blu-ray's stereoscopic 2.40:1-framed MVC 1080p encode, which offers good separation and dimensionality for much of its running time.

Unsurprisingly, image clarity drops off a touch during the final act as Godzilla and the M.U.T.O.s face-off against one another at night in the ruins of San Francisco, although the use of pockets of light on different planes during night shots helps sell the 3D effect in even the darkest scenes, demonstrating a level of forethought on the Edwards' part that hasn't always been present in other ret-cons.

The alternate AVC 2.40:1 1080p 2D presentation (which arrives on a separate disc) scores better when it comes to the overall clarity and brightness of the image. This in turn aids the resolving of shadow detail, resulting in an even more finely-nuanced and textured hi-def presentation. Given the frequently dark and gloomy visuals the film adopts, it's about as good as you could hope for.

Audio: As we learnt from *Pacific Rim*, any movie based around the notion of giant monsters rampaging around cities is going to come with some hefty assumptions where the soundtrack is concerned. Even so, this Blu-ray release of *Godzilla* still managed to trump our expectations with its staggering DTS-HD MA mix.

Dynamic, powerful, aggressive, expansive and detailed from start to finish, the disc's 7.1-channel



The film reportedly contains more than 960 separate visual effects shots



Aaron Taylor-Johnson was put through a 'mini-bootcamp' by military advisors

DEMO SCREEN...

Godzilla 3D

Time code: 093.22 – 096.16



Jump to it: With the sound of Gyorgy Ligeti's *Requiem* rising in the soundmix, the soldiers begin their H.A.L.O. jump into the ruins of San Francisco in the one of the film's most striking scenes.



Breaking wind: As the soldiers fall through the clouds, the sound of the wind seamlessly whips around the 7.1-channel soundstage, while the plumes of red smoke give the 3D image a real sense of depth.



Descent into hell: A long shot of the soldiers descending through the clouds above the city provides a respite from the AV maelstrom and gives you a chance to savour the fine detail in the image.



Point-of-view: The 2.40:1 encode tests your system's ability to render accurate black levels with terrifying shots taken from the point of view of one of the H.A.L.O. jumpers.

Something had gone very wrong at Walter White's meth lab...



soundtrack delivers on all levels. And while it was inevitable that there would be no shortage of booming bass, it's the way in which low-end effects are controlled that really stands out.

To see what we mean, spin up the railway bridge sequence in Chapter 8 where the bass-rich clicks and vocalisations of the M.U.T.O circle around the soundstage – as the creature itself circles around the two soldiers hiding there. It's an astonishing acoustic experience of precision and control.

So do we have any complaints? Only, considering the film was mixed theatrically for Dolby Atmos, that

this Blu-ray release hasn't been turned into the flag-bearer for the home incarnation of the technology.

Extras: There's not a lot to get excited about here. *Monarch: Declassified* hosts a trio of in-universe films – *Operation: Lucky Dragon* (three minutes) regards the original encounter with Godzilla, *The M.U.T.O. File* (four minutes) explores the film's other monsters, and *The Godzilla Revelation* (seven minutes) reflects on the events of the movie.

The Legendary Godzilla contains four featurettes looking at the making of the film. *Godzilla: Force of Nature* (19 minutes) is an interesting overview of the production, *A Whole New Level of Destruction* (eight minutes) deals with the set and production design, *Into the Void: The H.A.L.O. Jump* (five minutes) looks at this key scene from the film; and *Ancient Enemy: The M.U.T.O.s* (seven minutes) handles the creation of Godzilla's opponents.

If *Godzilla* is to be re-released on Blu-ray with a Dolby Atmos audio upgrade in the not-too-distant future (and if it was we'd queue up to buy it), then Warner Home Entertainment should also take the opportunity to give the extra features a much-needed boost as well.



HCC VERDICT

Godzilla 3D

→ Warner Home Entertainment

→ All-region BD → £28 Approx

WE SAY: Astonishing 7.1-channel sonics make this agreeable monster movie a must-own on Blu-ray

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★ >

Nobody could believe their eyes when Godzuki turned up!



ARCADE ACTION

Bigscreen home entertainment isn't just about movies anymore. Check out these two games vying for time on your home cinema...

Destiny

Activision → Xbox 360/Xbox One/PS4/PS3 → £55 Approx



Make no mistake about it, *Destiny* is a beautiful-looking game – *Halo* creator Bungie has clearly worked hard to dazzle gamers with the graphical prowess of this ambitious 'persistent' online first-person shooter. But how does it actually play?



As you'd expect from Bungie, *Destiny's* shooting mechanics are flawless; the perfect combination of fluid controls and impeccable collision detection. Enemies, meanwhile, provide a reasonable challenge, favouring the use of cover to blindly charging into the range of your weaponry. All of which makes the first few hours

of play an absolute delight – particularly when you have a group of friends along for the ride.

The major problem right now stems from the story itself. Unlike your traditional online multiplayer shooter, *Destiny* is very much a story-driven experience, and the bland, repetitive missions and portentous storytelling are plain annoying. The *Badlands* games could get away with this by masking it all with humour, but Bungie's first-person-shooter-cum-massively-multiplayer-roleplaying-game is far too serious to ever crack a joke or two. However, as Bungie has already announced plans for additional story content, there's a chance that *Destiny* could still reach its full potential.



Metro: Redux

Deep Silver → Xbox One/PS4/PC → £35 Approx



Highly regarded sci-fi shooter *Metro 2033* gets fashionably remastered for its next-gen console debut and the result is a significant visual improvement over the original. But there's more to this timely remaster than extra pixels; the gameplay feels genuinely cinematic, with some great high-definition lighting and



atmospheric effects. It also runs at a smooth 1080p60 on the PS4 (version tested), which really complements the FPS shenanigans.

Based on the titular novel by Dmitry Glukhovsky, the story is strong for a game that essentially involves a lot of creeping about in tunnels. There's a pleasing variety of gameplay, allowing you to opt for either full-on carnage or stealth. These Spartan and Survival modes ease you into the action and there's a hardcore Ranger mode for those that like to play tough. The package is formidable value too, as it includes the sequel *Metro: Last Light* plus all previously available Season Pass DLC content. Sonically, though, it's rather less compelling: the voice work is hokey at best and, while natively multichannel in design, there's very little of note about the sound mix and effects beyond basic directional steerage. That said, *Metro: Redux* remains a reasonable upgrade for *Metro* veterans and if you've not explored post-apocalyptic Russia before, there's no reason to say 'nyeht comrade' any longer.



Hannibal: Season Two

StudioCanal → Region B BD
£40 Approx



Roles are reversed in this spellbinding second season of the crime drama based on Thomas Harris' novels, as FBI profiler Will Graham is the lunatic locked away behind bars

and Hannibal Lecter is on the loose and aiding the law. As if that wasn't a compelling enough reason to pick up this set, *Hannibal* continues to be one of the best-looking shows available on BD. Best of all, though, this time around UK fans get the full complement of extras, including eight episode commentaries.



The Walking Dead: Season Four

EntertainmentOne → Region B BD
£45 Approx



A seemingly idyllic life behind prison walls is cut short for Rick and his fellow survivors as the popular comic book adaptation lives up to its potential with this brilliantly harrowing latest

season. In AV terms, the five-disc Blu-ray boxset is on a par with the previous season, delivering colourful and grainy 1.78:1 Full HD imagery that accurately reflects the original 16mm footage, plus impressively expansive and active DTS-HD MA 5.1 sonics. It also delivers the goods when it comes to extras, with seven episode commentaries and numerous featurettes.



Doctor Who: 50th Anniversary Collector's Ed.

BBC Worldwide → All-region BD
£55 Approx



Limited to just 10,000 copies (6,000 BD and 4,000 DVD), this boxset collects Matt Smith's final three stories as well as giving the one-off BBC drama *An Adventure in Space*

and *Time* its UK Blu-ray debut. That the bumper array of extras includes hi-def versions of the 2013 Proms performance and Peter Davison's witty *The Five(ish) Doctors Reboot* only makes it more appealing. However, the decision to omit the 3D version of *The Day of the Doctor* is annoying for completists.





Spidey never had any trouble finding somewhere in town to park his car



What a tangled web we weave

An over-stuffed plot and surfeit of villains leaves Sony's superhero franchise dangling by a thread

→ THE AMAZING SPIDER-MAN 2 3D

Marc Webb's 2012 *Spider-Man* reboot didn't have the same kind of impact as Sam Raimi's first entry in the franchise, but remained a fun piece of spandex action backed up by excellent chemistry between leads Andrew Garfield (Peter Parker/Spidey) and Emma Stone (Gwen Stacy).

So it's disappointing to see this sequel fritter away pretty much all of the goodwill its predecessor built up. Saddled with countless sub-plots and a roster of under-developed characters (none more so than Dane DeHaan's Harry Osborn/Green Goblin), it barely manages to tell a coherent story despite the patience-testing 142-minute running time. Even the action scenes feel overly repetitive, relying far too

much on obvious CG wizardry and lacking a human touch.

Picture: The Full HD 2.40:1 imagery here pays something of a homage to the film's comic roots. Colours are bold, deep and well saturated and there is high dynamic contrast in almost every scene. This pays its biggest dividends with graduated

colours and textures, so the deep blue-blacks of police uniforms are rendered rich with detail.

In 2D guise, the image never falls into oversaturation or peaky contrast, and the sheer detail on show, even in the darkened tunnels in the Roosevelt station scene, is jaw-dropping. Switch to 3D and the picture loses some of its punch in favour of extremely deep perspective. It's not massively subtle, although individual characters and objects get a solid 3D treatment as opposed to looking like cardboard cut-outs.

Audio: This DTS-HD Master Audio 5.1 mix is bit of a superhero, too, with effects and score playing equally important roles. And, far from being a gratuitous sonic storm, all but the finale is delivered in a supremely well balanced and even-handed style. Dialogue is given a crisp leading role, the score times with pin-point precision (although its trick of starting in the front soundstage and swelling to the surrounds begins to grate after a while) and the LFE channel subtly underpins only the largest effects. Okay, maybe we would have liked a bit more bass gusto, but you can't knock the cohesive balance and clarity.

Extras: *The Wages of Heroism* is a brilliant six-part *Making of...* documentary that clocks in at 104 minutes and is definitely worth a spin. Also on offer are the eight minute *The Music of Amazing Spider-Man 2*, which finds director Marc Webb ruminating on the film's score; a writers/producers commentary (accompanying both the 2D and 3D presentations); 13 deleted and alternate scenes with optional chat-track; and an Alicia Keys music video.



Dane DeHaan's Green Goblin is just one of the sequel's trio of baddies



HCC VERDICT

The Amazing Spider-Man 2 3D

→ Sony Pictures → All-region BD

→ £28 Approx

WE SAY: A confused sequel that at least excels in the AV department

Movie ★★☆☆☆

Picture ★★★★★

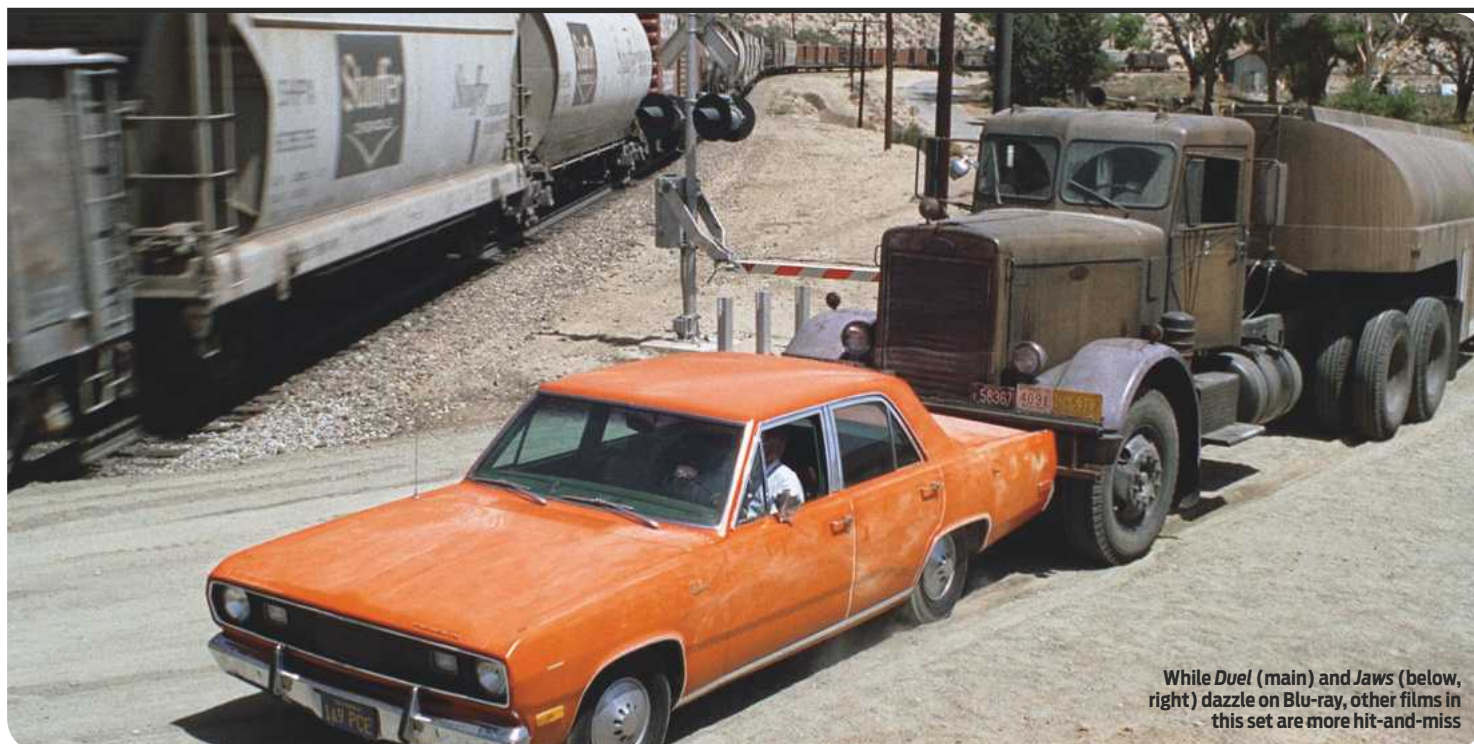
Audio ★★★★★

Extras ★★★★★

Overall ★★☆☆☆



Not even Jamie Foxx's Electro can add a spark of excitement to this tired sequel



While *Duel* (main) and *Jaws* (below, right) dazzle on Blu-ray, other films in this set are more hit-and-miss



Taking the direct(or) approach

Bumper boxset sees four more Spielberg movies make their long-awaited Blu-ray debut



→ STEVEN SPIELBERG: DIRECTOR'S COLLECTION

This eight-film boxset brings together all but one (*Schindler's List*) of the films Steven Spielberg has made for Universal to date – *Duel* (1971), *The Sugarland Express* (1974), *Jaws* (1975), *1941* (1979), *E.T. The Extra-Terrestrial* (1982), *Always* (1989), *Jurassic Park* (1993) and *The Lost World: Jurassic Park* (1997) – four of which get their first HD outing here.

Duel was Spielberg's feature debut, albeit directing a TV movie (which was released theatrically abroad with extra footage). As calling cards go, this tale of a lone driver being stalked by a mysterious tanker truck is hard to fault.

The Sugarland Express is a more low-key, but still entertaining, piece of comic-melodrama, playing like a more sympathetic version of *Bonnie and Clyde*. Meanwhile World War II comedy *1941* may be a misfire, but at least it's a spectacular misfire.

The same cannot be said for *Always*, Spielberg's remake of Victor Fleming's 1943 romantic drama *A Guy Named Joe*, which would be reminiscent of *Ghost* – but only if that film had been stuck with a lopsided plot and a fairly unlikable lead.

Picture: The newly-restored *Duel* is the undoubted star here. Looking every bit the authentic 35mm

production, the 1.85:1-framed image exceeds expectations with its plentiful detail and film grain.

While presumably taken from an older master, the 2.40:1 Full HD presentation of *The Sugarland Express* does at least maintain the film's slightly hazy visual style. Sadly, both versions of *1941* (see below) have been tarred with the DNR brush, resulting in a rather digital-looking transfer. While *Always* also shows some signs of digital tampering, it's not quite as egregious as that on *1941*, resulting in an image akin to the quality of *Jurassic Park* and its sequel.

Audio: *Duel*, *1941* and *Always* all sport effective DTS-HD MA 5.1 mixes that deliver plenty of dynamic effects. *The Sugarland Express* receives a more modest DTS-HD MA 2.0 upgrade. Once again, *Duel* is the pick of the bunch, making great use of the rears whenever the truck bares down on our hero's car.

Extras: While *The Sugarland Express* and *Always* can only muster trailers, the other two newcomers fare far better. *Duel* offers a trio of interviews, plus a photo gallery and trailer, while *1941* gets two versions of the film (each on its own BD platter), a feature-length *Making of...*, deleted scenes and more.

The other four Blu-ray platters in the boxset (*Jaws*, *E.T.*..., *Jurassic Park* and *The Lost World...*) are identical to their original standalone Blu-ray releases in all regards – right down to their extra features.

HCC VERDICT

Steven Spielberg: Director's Collection
→ Universal Pictures

→ All-region BD → £80 Approx
WE SAY: Worth a punt if you don't already own any of his films on BD

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

Attack on Titan: Part One

Manga → Region B BD
£30 Approx



This latest anime smash is thematically similar to the recent spate of 'Young Adult' literary adaptations like *The*

Hunger Games and *Divergent*. This time around the coming-of-age story takes place in a world where what remains of humanity takes shelter in walled cities from enormous flesh-eating giants! Manga's double-disc Blu-ray set serves up crisp and vibrant AVC 1.78:1 1080p versions of the first 13 episodes with a choice of Japanese LPCM 2.0 and English DTS-HD MA 5.1 soundtracks. The only extras are a pair of episode commentaries.



Ghost in the Shell: Limited Edition

Manga → Region B BD
£30 Approx



Previously available only as an 'enhanced' Blu-ray that recreated some scenes using

terrible CG animation, this latest release finally offers a Full HD presentation of the original version of this Japanese animated classic. Window-boxed at 1.85:1, the imagery doesn't look too sharp, but this is largely down to the filmmakers' decision to blow-out the contrast in many scenes, giving the film an intentionally gauzy look. Frustratingly, there are no disc-based extras whatsoever – which is a major oversight for such a highly-regarded film.



From Dusk Till Dawn: Season One

EntertainmentOne → R2DVD
£30 Approx



This TV adaptation of Robert Rodriguez's 1997 cult flick pits two criminals and a family of hostages against

vampire strippers. It starts brightly, but stretches the story too thinly over its ten episodes (we don't enter the infamous strip bar until episode six) and gets bogged down trying to build a bigger mythology. This three-disc DVD set struggles to capture the show's stylised visuals, with vibrant colours in the anamorphic 1.78:1 transfers suffering from obvious bleed. Still, the DD 5.1 mixes sound great and there are plenty of extras.



Killer Klowns from Outer Space

Arrow Video → Region B BD/R2 DVD
£25/£28 Approx



A goofy late '80s horror every bit as ridiculous as its title suggests. Thankfully, the Chiodo Brothers' film is also

fully aware of this and keeps tongue wedged firmly in cheek during the ensuing hour-and-a-half of coulrophobe-bothering mayhem. In addition to the satisfying AVC 1.85:1 1080p encode and fairly undemanding LPCM 2.0 stereo soundtrack, this Blu-ray (available in regular and steelbook versions) comes loaded with an extraordinarily comprehensive array of extras – several of which are exclusive to this release.



Blu-ray bustin' makes us feel good!

One affordable double-pack. Two stunning 4K restorations. Lots of bonus features...

→ GHOSTBUSTERS 1 & 2

Ghostbusters celebrates its 30th anniversary this year, but thanks to its brilliant ensemble cast, witty script and imaginative special effects, the iconic comedy-horror about a trio of friends who set up a ghost extermination business in New York still feels just as fresh as it did back in 1984.

Sadly, the same cannot be said for the sequel, which offers flat plotting, a bland villain and a surprising lack of actual ghost-busting. The leads are all on fine form, however, wringing as many laughs as possible out of the rather thin material.

Picture: This is actually the third time that *Ghostbusters* has been released on Blu-ray, and this latest version is based on the superb 'Mastered in 4K' platter released last year; it shares that disc's improved clarity and more authentic colour grading. A heavy layer of grain is persistent throughout, but is pleasingly refined, resulting in an authentically film-like viewing experience.

Ghostbusters 2, which makes its Blu-ray debut in this double-pack, looks every bit as good. Once again 'Mastered in 4K', the disc's AVC 2.40:1 1080p imagery is packed with intricate textures and vibrant colours (particularly when it comes to the flood of pink slime). Film grain is present again, and it's considerably finer here due to the different film stock used to lens the sequel.

Audio: Both movies carry DTS-HD MA 5.1 remixes of the original soundtracks. In truth, neither offers much to get excited about when it comes to rear speaker deployment, but they do exhibit excellent separation across the front L/C/R soundstage,



HCC VERDICT

Ghostbusters 1 & 2

→ Sony Pictures
→ All-region BD → £20 Approx
WE SAY: New extras and the hi-def debut of the sequel make this double-pack a must for fans

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★

adding plenty of dynamic flair to the audio. The mixes also pack a surprising bass heft, with huge throbs of LFE erupting from the subwoofer channel every time a proton pack is turned on and charged up.

Extras: While the previous 'Mastered in 4K' Blu-ray release of *Ghostbusters* was a barebones affair, the version included here is packed with extras (including everything from the very first Blu-ray release, bar a videogame promo). Highlights are an audio commentary, picture-in-picture viewing mode, 30th anniversary poster gallery, the music video for Ray Parker Jr's original song and the first part of a new interview with actor/writer Dan Aykroyd and director Ivan Reitman (24 minutes).

Ghostbusters 2's extras are less impressive. The main draw is the second part of the chat with Aykroyd and Reitman (16 minutes). There are also seven deleted scenes, trailers and a music video.



Add another trophy to the cabinet

New 4K restoration helps this classic early horror shine brighter than ever

→ DAS CABINET DES DR. CALIGARI

Director Robert Wiene's 1920 silent movie recounts the tale of the titular carnival hypnotist and the somnambulist he uses to kill for him. While the plot may appear fairly simple, Wiene's film infuses each frame of the story with a nightmarish quality, running from the overtly theatrical performances to his pioneering use of an Expressionist aesthetic – the latter creating a blatantly artificial landscape, full of harsh jagged angles, that serves to exaggerate the psychological terror. Utterly captivating.

Picture: Sourced from a brand-new 4K restoration of the original camera negative undertaken by Friedrich-Wilhelm-Murnau-Stiftung (with missing material reconstituted from other sources), this Blu-ray's 1.33:1 1080p imagery is a revelation.

Yes, there are still scratches to be found in the image, but the sharpness and clarity is leagues ahead of any previous version. The overall sense of freshness is aided by the unexpected vibrancy of the colour tinting. We never imagined that Wiene's horror could look this good.

Audio: The longer running time of this presentation of *Das Cabinet...* means that Eureka! hasn't been able to include the Timothy Brock score that many fans will be familiar with from the label's original DVD release (nor any of the multitude of others produced over the decades). Thankfully, while very different, the new score proves equally atmospheric and appears in both LPCM 2.0 stereo and DTS-HD MA 5.1 incarnations – the latter makes surprisingly expansive use of the larger soundstage.



Actor Conrad Veidt made one film shot in colour, 1940's *The Thief of Bagdad*



HCC VERDICT

Das Cabinet Des Dr. Caligari

→ Eureka! Masters of Cinema Region B BD/R2 DVD → £23 Approx

WE SAY: A stunning hi-def presentation for one of the classics of silent horror. Simply unmissable.

Movie ★★★★★

Picture ★★★★★

Audio ★★★★★

Extras ★★★★★

Overall ★★★★★



Extras: Film historian David Kalat provides an audio commentary that's on a par with the fascinating one he recorded for the label's earlier *Nosferatu* Blu-ray. Further analysis of the flick can be found in the 53-minute *Caligari: The Birth of Horror in the First World War* and the 16-minute *You Must Become Caligari*, a video essay by critic David Cairns that is slightly lighter in tone (yet no less rigorous in its analysis) and perhaps added as a riposte to some of the more contentious statements made in the first documentary. Rounding out the Blu-ray extras are a nine-minute piece on the restoration of the film and the re-release trailer.

The set also includes a DVD copy and a beautifully illustrated 44-page booklet featuring an essay on Expressionist film and an archival review.

Blacula: The Complete Collection

Eureka! → Region B BD/R2 DVD
£23 Approx



The best-known examples of the blaxploitation genre's brief flirtation with horror, *Blacula* and its sequel remain enjoyable films beyond their joke titles and outrageously funky scores.

This release packs both *Blacula* and *Scream, Blacula, Scream* onto a single BD50 platter with no obvious trade-off in image quality – the encodes have a rough-hewn charm that seems to be a fitting reproduction of their rather grainy photography. Audio for both is presented as LPCM 2.0 mixes that are adept at handling the scores. Best of the limited extras is a 25-minute discussion of the movies by critic Kim Newman.



Afflicted

EntertainmentOne → R2 DVD
£18 Approx



A trip around the world goes horribly wrong for two friends when one comes down with a mysterious disease that gives him increased strength and a taste for human blood. This clichéd found-footage update of the traditional vampire story has scooped a number of awards at genre festivals – but outside of an appreciation of how much it achieves on a small budget, it's hard to see why. If you're still tempted to take a bite, this DVD release features a modest anamorphic 1.85:1 transfer and dynamic DD 5.1 audio. Meagre extras take the form of a chat-track and interview.



Only Lovers Left Alive

Soda Pictures → Region B BD
£20 Approx



White-haired hipster and doyen of the US independent film scene Jim Jarmusch appears an unlikely figure to try his hand at the vampire genre. And yet *Only Lovers Left Alive*, which stars Tom Hiddleston and Tilda Swinton as two vampires trying to keep their love going as the world dies around them, proves to be his best in years. The film's luscious visuals are well served by the disc's vibrant 1.85:1 1080p encode, while the tonality of the DTS-HD MA 5.1 mix gets the best out of the haunting soundtrack. A 50-minute documentary following Jarmusch as he works on the film is the pick of the extras.



Samsung UHD TV Curved

Ultra High Definition 4K



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HU8500 SERIES • CURVED 4K UHD TV

Introducing a breakthrough in TV viewing that will change the way you watch TV forever – the Samsung HU8500 Curved UHD. Wider viewing angles, pure and accurate colour reproduction and a sense of depth never experienced before are only possible on a curved Samsung screen, specifically shaped for UHD viewing at its very best.

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SONY 4K

X8 SERIES • 4K UHD TV

The new Sony X8 series 4K UHD LED TV boasts four times more detail than Full HD, 4K gives stunningly natural images, not pixels. Dramatically higher image quality means that you can sit closer to the screen, filling more of your field of view until the screen disappears and you are enjoying an at-the-movies experience.

49 55 65 FREE 5 YEAR WARRANTY

Also Available
SONY X9 SERIES • 4K UHD TV



SONY

S90 SERIES • CURVED 4K UHD TV

The new S90 is Sony's first ever range of curved TVs. Available in two screen sizes: 65in and 75in, the S90 series boasts 4K Ultra HD resolution. Features and specifications include Sony's 4K X-Reality PRO picture engine, Triluminos colour technology, Motionflow XR800Hz, edge-lit LED backlighting, active 3D and a detachable Skype camera.

Sound is provided by Sony's new 4.2-channel multi-angle live speaker system which allows for "expansive, uncompromised 360-degree surround sound". Other features include Sony's Social Viewing for watching with friends over Skype, Live Football Mode, One-touch mirroring and Photo share.

FREE 5 YEAR WARRANTY 4K 65 75



SONY • W7 SERIES • FULL HD TV

The new Sony W7 Full HD LED TV series boasts pin sharp films and programmes all wrapped in clean Sony design. Full HD 1080p renders everything in stunning detail and with Motionflow technology even fast-moving action like games and sports flow across the screen. Sony's smart new remote also features a touchpad for seamless flicking through channels.

32 42 FREE 5 YEAR WARRANTY



PANASONIC • AX802 SERIES • 4K UHD TV

The new Panasonic AX802 4K LED TV series combines excellent 4K picture quality with versatile networking features and innovative functions in a stylish design. Includes Freetime built-in, so you can get the advantages of roll back TV (for the past seven days) and easy access to all major catch-up services directly from the Freetime programme guide.

50 58 65 FREE 5 YEAR WARRANTY



SAMSUNG • HU7500 SERIES • 4K UHD TV

Samsung's HU7500 Ultra High Definition TV series produces the brightest, clearest images with four times the detail of Full HD to deliver an amazing viewing experience. With Colour Brilliance, colours come alive and images look naturally vibrant, as everything shown on the screen is expressed with brighter richer tones. The HU7500 is the must-have TV for your living room.

48 55 65 75 85 FREE 5 YEAR WARRANTY

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SONY • VPL-HW55ES • SXRD PROJECTOR

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7.1-channel AV receiver with Bluetooth and NFC compatibility for instant wireless playback from any compatible device.

Also Available: SONY STR-DA2800ES



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The new multi-room wireless streaming system from Bluesound offers high-resolution 24-bit playback. There are five components in the Bluesound range, available in gloss black or gloss white, which can be controlled using iOS or Android apps on a smartphone or tablet.

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HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

TOP 10 TELEVISIONS

All prices are approx and may have changed

**Sony KD-65X9005B** → £3,600

★★★★★

A groundbreaking set from Sony. The 'Wedge' cabinet design afford rooms for a best-in-class audio performance from the side-mounted speakers, while imagery is hard to fault, with crisp 4K visuals and impressive motion. *HCC #236*

**Samsung UE65HU8500** → £4,000 ★★★★★

This second-gen 4K flagship is a first-rate (curved) flatscreen with colour-rich, lethally-sharp images. The external connections box provides welcome futureproofing. *HCC #234*

**Panasonic TX-P60ZT65** → £3,800 ★★★★★

This plasma lives up to its 'Beyond Reference' billing, with the best 1080p picture in town – imagery is effortlessly cinematic. But at this price, you might want 4K... *HCC #233*

**Samsung UE55HU7500** → £2,300 ★★★★★

Don't want the curved form or higher price of the HU8500 range? Then step down to this flat model. No One Connect box, but otherwise it's equally impressive in PQ terms. *HCC #239*

**Sony KDL-50W829** → £900 ★★★★★

Impressively affordable, Sony's 50in LED stands out courtesy of brilliant motion handling and sharp Full HD imagery. The new 2014 user interface offers a few Smart tricks, too. *HCC #233*

**John Lewis 55JL9000** → £1,600 ★★★★★

The department store enters the bigscreen arena with this LG WebOS-powered Smart TV with clever, integrated soundbar design and punchy HD visuals. *HCC #238*

**Samsung UE40H6400** → £650 ★★★★★

This mid-market TV will probably sell like hotcakes. It ignores 4K in favour of Full HD, and combines a pleasing AV performance with plenty of useful Smart features. *HCC #236*

**Finlux 50F8075-T** → £600 ★★★★★

The best screen we've seen yet from the direct-retail corp, this 50-inch matches its affordability with a great user interface and solid, but not awe-inspiring, HD visuals. *HCC #234*

**Panasonic TX-50AX802** → £7,000 ★★★★★

This second-gen 4K TV again offers HDMI 2.0 and DisplayPort connectivity, joined by a well-contrasted colour-rich image and elegant design. Netflix 4K support added by firmware. *HCC #237*

**Sony KDL-55W955** → £1,600 ★★★★★

Top of the Japanese giant's 1080p line up, the W955 offers excellent motion handling and great sonics, but is held back by backlight uniformity errors and sluggish operation. *HCC #234*

TECH INFO: TELEVISIONS



What? No plasma?: The TV market is now dominated by LED-lit LCD screens, reaching sizes up to 90in. Manufacture and sale of plasma display panels (PDPs), which previously came into play above 42in, has all but ceased, although you may still find some end-of-line stock. With LED comes newer technologies. 4K models with a native resolution of 3,840 x 2,160 should at least be on your audition list if you're thinking of a new display; curved models, from the likes of Samsung and LG, are also a consideration if you want to really impress the neighbours...



Active or Passive: At the beginning of the 3D revolution, most TVs featured the Active system that uses relatively expensive, powered 3D specs to deliver Full HD images to each eye. Passive 3D TVs, which are increasingly common and now sold by LG, Philips, Toshiba, Sony and Panasonic, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). Glasses-free 3D, heralded by Toshiba's ZL2 TV, hasn't caught on.

TOP 5 BLU-RAY MOVIES

**The LEGO Movie 3D**

A fantastic family blockbuster (complete with LEGO versions of Batman and Superman), this gorgeous-looking 'toon packs a 5.1 punch and enough smart gags to keep you laughing all the way to the toy shop.

★★★★★

**A Hard Day's Night**

A brand-new 4K restoration adds plenty of sparkle to this iconic musical flick – the 1.75:1 Full HD image is faultless, while remixed 5.1 audio provides plenty of foot-tapping fun. Oodles of extras for Beatles fans, too.

★★★★★

**Captain America: The Winter Soldier**

Short of extras, but everything else here is spot on – Marvel's sequel outdoes the original with its paranoid plot-line, and the DTS-HD 7.1 track oozes bass weight and separation.

★★★★★

**Rush**

This Formula One biopic is simply magnificent, both in terms of production values/performances and its thrilling DTS-HD 5.1 mix. The BD hosts a nice selection of extras, too – an essential disc for petrolheads.

★★★★★

**Gravity 3D**

Alfonso Cuarón's sci-fi flick rewrites the rulebook on movie sound design, and stakes a claim to the 3D crown. A disc you'll return to again and again when you want to test your system – nice extras as well.

★★★★★

Top 10 BLU-RAY PLAYERS

All prices are approx and may have changed

- 1**  **Oppo BDP-103EU → £500 ★★★★★**
 Oppo's first deck for two years was worth waiting for. The universal BDP-103EU features a class-leading build and all manner of bonus goodies, including twin HDMI inputs. AV performance is faultless, and the onscreen menus are superb. A new model, the £600 BDP-103D, adds Darbee Visual Presence processing for you to play with. *HCC #215/#228*
- 2**  **Oppo BDP-105D → £1,000 ★★★★★**
 This heavyweight deck builds upon the premium picture performance of the BDP-103D with a wealth of audiophile upgrades – if you're serious about music, check it out. *HCC #234*
- 3**  **Sony BDP-S7200 → £220 ★★★★★** NEW ENTRY
 A Sony deck without the curious angular design, the BDP-S7200 offers SACD support, hi-res audio streaming and 4K upscaling that's worth investigation. Not too pricey, either. *HCC #239*
- 4**  **Panasonic DMP-BDT700 → £500 ★★★★★**
 Claiming THX-certified 4K upscaling and HDMI 2.0 60p passthrough, this mid-range deck from Panasonic is a good partner for a modern display. Great audio option, too. *HCC #237*
- 5**  **Samsung BD-H6500 → £130 ★★★★★**
 Our current fave bargain BD deck – actually Samsung's 'flagship' model – is packed with Smart features, including support for the brand's multiroom system, and super-quick in operation. *HCC #236*
- 6**  **Denon DBT-3313UD → £900 ★★★★★**
 As a 'transport', this universal deck lacks built-in decoders and analogue outs, but partner it with one of the brand's AVRs via Denon Link HD and you'll be rewarded. *HCC #217*
- 7**  **LG BP645 → £100 ★★★★★**
 An affordable, likeable offering from LG. The BP645 claims Spotify compatibility and Wi-Fi-enabled headphone listening among its bonus features. Slim but lightweight design. *HCC #236*
- 8**  **Sony BDP-S5200 → £100 ★★★★★**
 Using a compact bedroom-friendly design, Sony's quirky-looking deck is a good budget option, but not as Smart or as smooth to use as some of its price-point rivals. *HCC #236*
- 9**  **Pioneer BDP-160 → £130 ★★★★★**
 The successor to the BDP-150 adds integrated Wi-Fi, making media file playback simpler. The Smart cupboard is still practically empty, but SACD support softens the blow. *HCC #227*
- 10**  **Toshiba BDX5500 → £120 ★★★★★**
 The key attraction of Toshiba's £120 player (aside from its 3D, Miracast, 4K scaling and DLNA features) is its small form factor and vertical alignment. Good for space-tight setups. *HCC #238*

TECH INFO: BLU-RAY PLAYERS

Matching your deck to your AV receiver: Blu-ray decks are designed to deliver top-notch images but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D video signals, in which case you'll need a deck with dual HDMI outputs – one channelling audio to your receiver amp, the other piping video direct to your TV.

What about the PlayStation?: Sony's console still represents an easy path to hi-def heaven. For a low-budget home cinema system, the £200 PS3 Slim (160GB) makes a decent choice – especially if you like playing games (in 3D, if you fancy it). Control via a joystick is a pain, though, and the console runs more noisily than most BD spinners. The newer, more expensive PS4 is a much better gaming machine, but won't play CDs!



DEMO DELIGHT

Prometheus: Ridley Scott's return to the sci-fi genre is a treat for your senses, with a crystal-clear HD image and spine-tingling sonics. The 3D presentation of this outer-space horror is impressive too – it oozes depth and proves utterly immersive

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At the top of everyone's shortlist



TOP 10 PROJECTORS

All prices are approx
and may have changed**Sony VPL-VW500ES** → £8,800

★★★★★

Sony's second-gen 4K projector is around half the price of the VPL-VW1000ES (below) and comes with HDMI 2.0 chipper and Triluminos colour wizardry. Auditioning this class PJ is a no-brainer. *HCC #228*

**JVC DLA-X500R** → £5,000 ★★★★★

Armed with a more adept third-generation of the brand's proprietary e-shift technology, the X500R continues JVC's winning ways – contrast rich, sharp and full of tweaks. *HCC #232*

**Epson EH-TW7200** → £1,900 ★★★★★

Priced to appeal to those unable to dabble in the £3,000 market, Epson's mid-ranger is a great purchase. No frame interpolation on offer, but colours, contrast and brightness impress. *HCC #232*

**JVC DLA-X700R** → £7,300 ★★★★★

A hefty chunk more expensive than the X500R, but with an improved contrast performance (and more flexible installation options) that will reward those who splash the cash. *HCC #238*

**Optoma HD50** → £1,000 ★★★★★

With a retweaked user interface that improves upon previous Optoma light-cannons, the 12V-trigger-toting HD50 is a brilliant budget buy. A detailed, colour-rich performer. *HCC #239*

**Philips Screeneo HDP1590** → £1,500 ★★★★★

Neatly designed, the Screeneo offers ultra-short throw projection thrills, albeit at 720p (and the DVB tuner is SD). Punchy speakers and networking skills complete a nice package. *HCC #233*

**Sony VPL-HW55ES** → £2,800 ★★★★★

Not one of Sony's 4K models, but this keenly priced Full HD projector delivers where it counts, with solid calibration options, simple setup and brilliant 2D visuals. No 12V trigger. *HCC #230*

**Epson EH-TW9200W** → £3,000 ★★★★★

A brilliant mid-range projector with wireless HD transmission and ISF certification, yet the noise generated when running in 'Normal' lamp mode could be a concern for some. *HCC #231*

**Acer 6510BD** → £500 ★★★★★

A Full HD projector that's 3D-ready (no glasses supplied), the Acer offers great value considering its lowly £500 ticket. Not the punchiest of pictures, but it'd be churlish to complain. *HCC #237*

**Optoma HD30** → £1,100 ★★★★★

A step up from the HD25, this claims an increased contrast ratio and again offers a pleasing bigscreen performance. UI could be better, and zoom is somewhat limited. *HCC #233*

TECH INFO: PROJECTORS



Installation: Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

Throw distance: Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

Throw ratio: Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

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Top 10 SPEAKERS

All prices are approx and may have changed



B&W 683 Theatre 5.1 → £2,750

★★★★★

The first step on the floorstanding ladder in B&W's speaker stable, the revamped 600 Series incorporates new tweeter and bass driver designs and offers absurd value for money. Not the prettiest cabinets, but you really won't care. *HCC #234*



KEF R Series 7.1 → £6,500 ★★★★★

A 7.1 array mixing dipolar and direct surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale home cinema sonics. *HCC #217*



B&W MT-60D → £2,000 ★★★★★

This 5.1 set sits at the upper end of the sub/sat market, but buyers are rewarded by a potent performance, with the PVID subwoofer dazzling in particular. They look lovely, too. *HCC #212*



DALI Rubicon LCR 5.1 → £6,275 ★★★★★

Trickle-down tech from DALI's high-end Epicon speakers (including ribbon/dome hybrid tweeters) squeezed into on-wall cabinets – supremely adept with music and movies. *HCC #238*



Wharfedale Diamond 100 HCP → £950 ★★★★★

Yet another excellent affordable package from Wharfedale, the Diamond 100 HCP offers a sound quality beyond what you might expect from its sub-£1,000 ticket. Maturely styled. *HCC #224*



Kreisel Sound Quattro 7.2 → £8,500 ★★★★★

Mixing two mammoth woofers with some surprisingly manageable multi-tweeter speakers (including TriFX surrounds) this US package is supremely assured. *HCC #232*



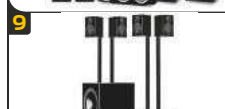
Artcoustic Spitfire SL 7.2 → £17,000 ★★★★★

Slimmed-down cabinets now even easier to install on-wall or behind a screen, with a multi-driver design ensuring they're easy to drive to high SPLs. Ideal for dedicated rooms. *HCC #233*



Tannoy Precision Series 5.1 → £4,450 ★★★★★

These speakers' classic look belies the brand's hi-fi heritage, but this multichannel setup works wonders with movies, too – a rich, large and dynamic sound is on offer. *HCC #226*



Monitor Audio Radius R90HTI → £1,500 ★★★★★

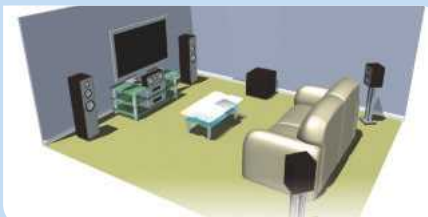
The long-loved Radius speakers have been revamped with new drivers and rear ports, and this 5.1 set provides a clear, detailed sound with plenty of heft. Looks good in white, too. *HCC #230*



Roth Oli RA 5.1 → £850 ★★★★★

A floorstanding array with neat design and reassuring build, this value-for-money pack delivers an impressive slice of scale to go with its full-range prowess. *HCC #233*

TECH INFO: SPEAKERS



Centre speaker: Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

Front speakers: Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

Subwoofer: Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

Surrounds: Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

DEMO DELIGHT

Gravity: This award-winning sci-fi thriller was a cinematic showcase for the powers of Dolby Atmos – but even the BD's regular DTS-HD mix is something special. The audio design offers precision steering and panning effects all around the soundstage, plus deep LFE and crisp Foley effects. The opening scene is a great speaker show-off.

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TOP 10 AV RECEIVERS/AV PROCESSORS

All prices are approx
and may have changed**Yamaha RX-A3040** → £2,000

A superb flagship AVR, this dovetails nine-channel amplification (and 11-channel processing) with a fluid, dynamic sonic signature and slick operation. Design and build impress, and it's Atmos ready for when you are. *HCC #239*

**Anthem MRX-510** → £1,700 ★★★★★

The Canadian brand returns in style with an AVR that ignores streaming/networking features but boasts supreme room EQ and eats movie soundtracks for breakfast. *HCC #232*

**Arcam AVR750** → £4,000 ★★★★★

If all you want from an AV receiver is vast power and effortless performance, this high-end 7.1-channel beast is tailored to you. Little bonus features beyond audio networking. *HCC #225*

**Krell Foundation** → £6,500 ★★★★★

One of the US marque's more affordable offerings, the Foundation is a seven-channel processor that delivers an insightful, smooth and epic sound. And it looks fab. *HCC #224*

**Yamaha CX-A5000** → £2,500 ★★★★★

Part of Yamaha's new high-end separates line (you can match it with the MX-A5000 amp), this 11-channel processor sounds clean, precise and offers a dizzying range of features. *HCC #228*

**Marantz NR-1605** → £600 ★★★★★

A brilliant option for those cowed by full-form AVRs, the NR-1605 sees Marantz retool its slender line to include integrated Wi-Fi and Bluetooth. Agile, sprightly and easy to use. *HCC #239*

**Primare SPA23** → £3,500 ★★★★★

A stripped-down five-channel amp that majors on sublime, and power-packed, multichannel delivery. Limited functionality, but that's not what this luxury slab is all about. *HCC #237*

**Pioneer VSX-924** → £500 ★★★★★

Pioneer's newest £500 model brings Bluetooth and Wi-Fi, an even better control app, HDMI 2.0 specification and under-the-hood tweaks. A great-value, great performer. *HCC #236*

**Yamaha RX-V577** → £500 ★★★★★

Loaded with DSP modes (some fun, some not) and Wi-Fi-enabled for audio streaming, this clean-sounding Yamaha is a great low-budget option. Bluetooth via optional dongle. *HCC #237*

**Sony STR-DN1050** → £500 ★★★★★

A fabulous user interface, smart design and excellent spatial imaging lend this Sony serious appeal, although we found the integrated Wi-Fi a bit flaky. *HCC #238*

TECH INFO: AV RECEIVERS



Tackling new heights: You may find your AV receiver offering Dolby Pro-Logic IIz, Audyssey DSX or DTS Neo: X post-processing – possibly all three. All of these can deliver two further Front Height channels, with the aim of adding weight and control to the front soundstage, particularly in terms of lifting the centre channel and adding scale to vertical surround effects – rainfall for example. The catch is that you will need to add two new physical speakers, mounted near your ceiling above the regular left and right channel cabinets, and make use of two of the receiver's channels of amplification. A newer alternative, Dolby Atmos, uses object-based encoded info rather than matrixed effects, for a more immersive experience. Atmos Blu-rays are on the way, as are add-on speakers that work around the need for dedicated ceiling models.

How much power?: Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

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Top 10 SUBWOOFERS

All prices are approx & may have changed

- 

Bowers & Wilkins DB1 → £3,250 ★★★★★
Featuring a bipolar arrangement of 12in drivers powered by 1,000W of amplification, B&W's stylish flagship sub is a faultless performer, offering both musicality and sheer muscle. Fit to partner the finest of speakers. *HCC #197*
- 

SVS SB-2000 → £650 ★★★★★
With a new 12in driver and revamped 500W Sledge DSP amplifier, this mid-sized woofer offers immense value for money and imbibes BDs with potent LFE. Easily recommended. *HCC #233*
- 

JL Audio Fathom F212 → £5,900 ★★★★★
The US brand arrives in the UK in style – this 2 x 12in, 3,000W brute not only looks gorgeous, it's capable of a mindblowing performance. Got a big room? Get one of these! *HCC #214*
- 

Tannoy TS2.12 → £550 ★★★★★
The TS2.12 is easily Tannoy's best woofer yet – using a 12in driver (opposite a passive 12in cone) and 500W amp to deliver a rich, bass performance. Affordable and good-looking, too. *HCC #208*
- 

REL S-5 → £1,600 ★★★★★
A step up from the T series (below), this 12in model is large and weighty, with a performance level to match. Fast and tight but capable of dropping very low indeed. *HCC #234*
- 

REL T-7 → £650 ★★★★★
The T-7 uses an 8in driver in tandem with a 10in passive radiator, and features simultaneous speaker-level and LFE inputs and Class A/B amplification. An excellent all-rounder. *HCC #223*
- 

Bowers & Wilkins PVID → £1,200 ★★★★★
On of the coolest-looking subs on the planet, B&W's revamped PVI uses DSP trickery to craft an opulent low-end performance. The touch-sensitive OLED display is pure class. *HCC #212*
- 

REL Habitat 1 → £1,300 ★★★★★
With its LongBow wireless system and wall-mountable design, REL's newest woofer is aimed at those seeking discreet bass. Twin 6.5in drivers work fast and with considerable grip. *HCC #231*
- 

SVS SB12-NSD → £650 ★★★★★
A 12in driver squeezed into the smallest enclosure possible, the SB12-NSD packs a 400W 'Sledge' amp and offers a weighty yet fast and accurate sound. Looks a bit bland, though. *HCC #223*
- 

Quadral Qube 10 → £525 ★★★★★
A gorgeous-looking woofer with a build quality that belies its lowly price tag, the Qube 10 takes Quadral's musical heritage and delivers a controlled, poised performance. *HCC #223*

TECH INFO



Why use more than one sub?: Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

DEMO DELIGHT

The LEGO Movie: This colourful, great-looking animation from Warner Bros. is a visual treat on Blu-ray, and matched by a 5.1 DTS-HD Master Audio mix that revels in its use of the LFE channel. Stonking bass is the order of the day here – the bangs, thumps and explosions of the manic 'toon action are underpinned by a forceful, full-bodied low-end that's guaranteed to get the most out of your subwoofer.

Top 5 HD GAMES



Ultra Street Fighter IV
New characters, stages and gameplay mechanics make this update of the four-year-old title the best beat-'em up around. If you're having a family row over what film to watch, this is the best way to settle it.
★★★★★



Forza Motorsport 5
This game's headline trick is delivering its huge car collection and decent selection of tracks in wonderfully detailed 1080p at a silky smooth 60fps. That it's not quite perfect – dodgy AI, for a start – is less important.
★★★★★



Grand Theft Auto V
Rockstar's newest slice of car-jacking, gun-wielding fun is absolutely massive in both scale and ambition – a big-budget game that will leave a big grin on your face. Graphically gorgeous, and the 5.1 mix isn't bad, either.
★★★★★



Assassin's Creed IV: Black Flag
This sequel takes to the high seas for piratical fun, with an enormous open world, absorbing gameplay, beautiful graphics and a soundtrack packed with well-realised ambient effects.
★★★★★



Titanfall
EA redefines the online shooter with this breathtaking arena blaster that ups the ante on the competition with its fluid run-and-gun mechanics, giant mechs you can take control of and gorgeous graphics.
★★★★★

TOP 10 ACCESSORIES

All prices are approx and may have changed

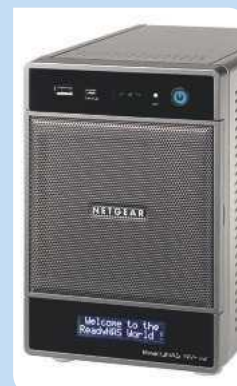
- 1 Now TV box → £10 ★★★★★**
 An unqualified bargain, this Wi-Fi VOD streamer from Sky (and built upon Roku hardware) brings BBC iPlayer, Demand 5 and the Roku Channel Store to any HDMI-toting telly, plus subscription access to Sky Movies and Sky Sports. The quality of the adaptive bitrate streaming is impressive, and the £10 tag gets you P&P and an HDMI cable. *HCC #226*
- 2 Sony SRS-X9 → £600 ★★★★★**
 A Wi-Fi, Airplay and Bluetooth speaker with a penchant for hi-res audio, Sony's premium one-box design offers a fine build, quality drivers and a beguiling performance. *HCC #235*
- 3 Devolo dLAN 650 Triple+ starter pack → £120 ★★★★★**
 This package makes Powerline networking fast (claimed at up to 600Mbps) and easy. The three-port Ethernet extender is sleekly designed, and provides a regular plug socket, too. *HCC #239*
- 4 Dune HD Base 3D → £250 ★★★★★**
 A media player for the AV enthusiast. Full-width and fully-featured, it provides support for 3D BD rips and much more, with a slick user interface and plenty of connectivity. *HCC #235*
- 5 Sony MDR-HW700DS → £450 ★★★★★**
 Comfy cans supplied with an HDMI-toting surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late nights. *HCC #234*
- 6 Philips Hue → £180 ★★★★★**
 These Wi-Fi enabled lightbulbs might be expensive (this £180 starter pack includes two, plus the Wi-Fi bridge) but making your own multicoloured lighting scheme is a blast. *HCC #220*
- 7 Monitor Audio Airstream A100 → £400 ★★★★★**
 Partner your TV with the speakers of your choice with this networked, AirPlay-streaming two-channel amp. Great, sleek design – bit awkward to control, though. *HCC #238*
- 8 Roku Streaming Stick → £50 ★★★★★**
 Adopting the same form as Google's Chromecast, this HDMI stick gives full access to Roku's lengthy channel list and enables content sharing from a smartphone. Great for old TVs. *HCC #235*
- 9 Microsoft Xbox One → £430 ★★★★★**
 Not as graphically potent as the PS4 (below) but the new Xbox lives up to its billing as a home entertainment hub – voice control and multi-tasking tricks prove very useful. *HCC #230*
- 10 Sony PlayStation 4 → £350 ★★★★★**
 The PS4 offers a killer gaming experience, with the under-the-hood power resulting in great-looking games. 3D Blu-ray playback has now been added via firmware. *HCC #229*

TECH INFO: MEDIA PLAYERS



What about my TV?: Many flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Toshiba and Sharp) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

Storage: You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with



multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.

TOP 5 BLU-RAY/DVD BOX SETS

**Game of Thrones: The Complete Third Season**

More fantastic fantasy TV delivered on Blu-ray – as with previous seasons, the AV quality here ensures the show's big-budget bombast shines through.

★★★★★

**True Detective: Season One**

HBO's award-winning eight-part crime series starring Hollywood heavyweights Matthew McConaughey and Woody Harrelson arrives on BD looking great. Essential viewing.

★★★★★

**The Werner Herzog Collection**

Eight discs packing 18 of the filmmakers' earlier flicks (from 1967 to 1987). The HD presentations are strong, and Herzog pops up on numerous commentary tracks.

★★★★★

**Video Nasties: The Definitive Guide Part Two**

Superb three-disc DVD package partnering a feature-length documentary about the 'video nasties' craze of the 80s/90s with trailers/analysis of 83 of the controversial films in question.

★★★★★

**Twin Peaks: The Entire Mystery**

Both seasons of the US cult TV series and the prequel flick ...Fire Walk With Me are given a fan-pleasing 10-disc BD release, sporting 7.1 DTS-HD audio and a treasure trove of bonus bits.

★★★★★

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TOP 5 PVRs

**Virgin Media TiVo, £subscription**

This triple-tuner PVR offers ultimate recording flexibility, useful features – you can undelete deleted shows! – and awesome TiVo functionality. A no brainer if you're in a cable area

★★★★★

**Sky+HD, £subscription**

Sky's channel choice is second-to-none and its twin tuner 2TB PVR is a perfect partner. The recent EPG tweak is welcome and Anytime (the push VOD service) is brilliant for catching up on new movies

★★★★★

**Panasonic DMR-HW220, £250**

Panasonic's PVR mixes a 1TB hard drive with its Smart Viera functionality and media streaming – so at £250 it's an absolute steal, regardless of the uninspired design

★★★★★

**Pure Avalon 300R Connect, 1TB, £350**

Pure's debut Freeview+ HD offering is assured. While it can't match YouView for VOD content, the user interface here is unrivalled and four-way HDMI switching a welcome addition

★★★★★

**Samsung BD-H8900, £330**

This 1TB model combines a Freeview+ PVR with a Smart BD player. Loaded with bonus features (CD ripping anyone?) but a little uninspired in build, and the IPTV and Freeview elements remain segregated.

★★★★★

TOP 5 SOUNDBARS

**Yamaha YAS-103, £230**

Bluetooth-enabled and app-controllable, this single-enclosure solution boasts a great design and solid build. Audio from its 2.1-channel driver array is rich, clean and surprisingly potent

★★★★★

**Canton DM 50, £400**

This sturdily built soundbase speaker may lack HDMI inputs but makes up for it with Bluetooth streaming and a full-bodied 2.1-channel performance. Movies and music benefit from clarity and power

★★★★★

**Monitor Audio ASB-2, £1,000**

This premium proposition marries Monitor Audio's C-CAM drivers with AirPlay and DLNA music streaming. Performance is exemplary – powerful and polished in equal measure

★★★★★

**Philips HTL9100, £600**

A soundbar/sub that incorporates two removable side speakers to allow it to become a wireless 5.1 system, this Philips is a neat proposition. Easy to install and with a heavyweight sound.

★★★★★

**Q Acoustics Media 4, £400**

A no-nonsense offering from the speaker specialist, which ignores HDMI inputs and daft DSP modes in favour of creating a nuanced and impressively solid 2.1 soundscape. Punchy, controlled and well-built.

★★★★★

TOP 5 SYSTEMS

**Panasonic SC-BTT590, £630**

The use of new bamboo/charcoal drivers and noise-shaping tech pays dividends here, with a classy sound quality to match the wealth of features (3D BD, Smart TV and more)

★★★★★

**Samsung HT-H7750WM, £850**

The top-flight system from Samsung in 2014 uses tallboy speakers all around. Plenty of features here, and a fulsome 5.1 performance, but the build quality is a bit disappointing

★★★★★

**Harman/Kardon BDS470, £650**

Harman's 2.1 system eschews 'net TV and streaming features, but majors in heavyweight build quality and solid AV performance. We tested a 2.1 iteration – 5.1 is also available

★★★★★

**LG BH8220B, £650**

With its silver finish, this is a suitable one-box system to partner with LG's flatscreen TVs, with a commendable, if slightly lacking in HF finesse, sound. Additional features including CD-ripping to USB. Handy

★★★★★

**Panasonic SC-HTB570, £350**

A commendable slim-line 2.1 system that can also be clicked together to make a soundbar. The punchy wireless subwoofer does a lot of the work. Bluetooth music streaming is onboard

★★★★★

HOME CINEMA

Choice

→ IN THE NEXT ISSUE

Treat your setup to some awesome add-ons with our Christmas gift guide
Audio explosion – does the Atmos mix on *Transformers 4* set a new reference level?
4K Blu-ray – what we want to see!

→ ON TEST

Pioneer SC-LX88 AV receiver Epson EH-TW6600W projector LG 65UB980V flagship 4K TV Denon AVR-X4100W AV receiver Monitor Audio Shadow speakers 47in/48in flatscreen group test PLUS News, software, opinion, installs and more!

CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER

ISSUE
#241 ON SALE
Nov 13



AV RECEIVERS

YAMAHA: 2014 - 2015 HOME CINEMA AMP MODELS

YAMAHA
RX-V377
BLACK | SILVER

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AVAILABLE

AVENTAGE
YAMAHA
RX-A1040 NEW
BLACK | SILVER

YAMAHA
RX-V477
BLACK | SILVER



0%
FINANCE
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YAMAHA
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YAMAHA
RX-V677
BLACK | SILVER

WHAT HI-FI?
SOUND AND PICTURE
★★★★★
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SPITFIRE CINEMA
FIXED FRAME SCREEN NEW
92-INCH TO 150-INCH



0%
FINANCE
AVAILABLE



EPSON EH-TW6100
HD PROJECTOR

SPITFIRE CINEMA
TAB TENSION SCREEN NEW
92-INCH TO 120-INCH



0%
FINANCE
AVAILABLE



EPSON EH-TW9200-W
HD PROJECTOR

SPITFIRE CINEMA
IN-CEILING SCREEN NEW
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0%
FINANCE
AVAILABLE



SONY VPL-HW40ES NEW
HD PROJECTOR

5.1 SPEAKER PACKAGES

SURROUND SOUND: THE MONITOR AUDIO WAY

MONITOR AUDIO
RADIUS R90 HT1 NEW
BLACK | WHITE | WALNUT

WHAT HI-FI?
SOUND AND PICTURE
★★★★★
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0%
FINANCE
AVAILABLE

COMPACT YET
POWERFUL

MONITOR AUDIO
SILVER 6 AV12 NEW
2 GLOSS | 4 VENEER FINISHES

WHAT HI-FI?
SOUND AND PICTURE
★★★★★
MAR 2014



0%
FINANCE
AVAILABLE

PURE PERFORMANCE
NO COMPROMISE

MONITOR AUDIO
MASS 5.1
WHITE NEW | BLACK

WHAT HI-FI?
SOUND AND PICTURE
★★★★★
AUG 2012



0%
FINANCE
AVAILABLE

BEST FOR
BUDGET

5.1 SPEAKER PACKAGES

OUR TOP-SELLING SURROUND SOUND PACKAGES

Q ACOUSTICS Q70001
BLACK | WHITE

WHAT HI-FI?
SOUND AND PICTURE
★★★★★
AUG 2012



0%
FINANCE
AVAILABLE

2014 BEST SELLER
MULTI AWARD
WINNER

DALI ZENSOR 5 AV 5.1
BLACK | WHITE | WALNUT

WHAT HI-FI?
SOUND AND PICTURE
★★★★★
NOV 2013



0%
FINANCE
AVAILABLE

TRADITIONAL STYLE
PURE PERFORMANCE

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SOUND AND PICTURE
★★★★★
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JUST RACKS JRL-1101
WHITE | BLACK



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AVAILABLE

PERFECT FOR
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ROOM FOR
CENTRE SPEAKERS

ALPHASON FINETWOODS
OAK | WALNUT | BLACK



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ANY COLOUR YOU LIKE!



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★★★★★



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HI-FI SPEAKERS

THE LATEST AND GREATEST PAIRS OF LOUDSPEAKERS

**Q ACOUSTICS
CONCEPT 40** NEW
BLACK | WHITE

WHAT HI-FI? STEREO AND VIDEO AWARDS MAY 2014
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SILVER 10** NEW
2 GLOSS
4 VENEER FINISHES

BEST FOR LARGE ROOMS

**WHARFEDALE
DIAMOND 121**
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WHAT HI-FI? STEREO AND VIDEO AWARDS OCT 2013
★★★★★



DALI ZENSOR 1
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SPEAKER CABLE**

WHAT HI-FI? STEREO AND VIDEO AWARDS NOV 2012
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BLACK OR GREY



**AUDIOQUEST
CINNAMON
HDMI CABLE**

WHAT HI-FI? STEREO AND VIDEO AWARDS JAN 2011
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RED | WHITE | BLACK



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POINT OF VIEW

Dreaming of a balanced audio performance, **Richard Stevenson** wonders if it's time he ditched his floorstanding speakers and adopted a true sub/sat system

I HAVE HAD another Atmos-inspired epiphany, and being a man who lives by the axiom that large floorstanding loudspeakers are a life essential, it's quite a shocker – I've realised that bijou speakers might be the best bet for home cinema.

The revelation came about as I ran-in my new Atmos ceiling speakers by setting them up as a front stereo pair for a music session. My Atmos weapons of choice are a cabinet-based on-wall/on-ceiling Tannoy model with a relatively compact 21-litre enclosure. Mrs S banned in-ceiling models, very likely due to this column's previous cartoon illustration of her in twin-set and pearls overseeing me cutting holes in the plasterboard.

These on-walls have a very THX attitude to frequency response and bass response falls off a cliff like a lemming below 80Hz. What they need is a THX subwoofer that takes over at 80Hz and below. And thus the speakers were duly set up at front of house, dialled in with my Velodyne DD18+ subs and a high-volume music fest ensued.

And what a nightmare it was too. The trouble is, in an age where music is streamed off a NAS drive and accessed via an app, you tend to listen track by track rather than sitting down to enjoy an entire 'LP'. The Beatles might follow Beethoven, Laura Marling might follow Metallica and Nina Simone might follow Nightwish (well, in my music collection at least). Every few minutes you are swapping between recordings from different eras, mastered with different tech by different producers, each with a different slant on what balance and levels sound right – and that really upsets a sub/sat system.

Because the speakers and woofer are running off different amps with different gain depending on input, and feeding drivers with different efficiencies, they are only ever going to be properly balanced at

one specific volume. Move the volume knob up or down or swap between tracks recorded at different levels and either the speakers or sub will end up louder. Sometimes a lot louder. Just try balancing a sub/sat system with a bass-light Fleetwood Mac recording and then switch to Eminem with the volume still in ASBO territory. You will be picking bits of your eardrums out of the back wall for a week.

This is not an issue with floorstanders. Driven by a single amplifier with a crossover that ensures the driver complement reacts uniformly with changes to input level, the frequency response stays pretty consistent irrelevant of volume or the eccentricities of the recording. Floorstanders are a much better bet than a sub/sat system for music.

Back in movie land, where you set the levels and sit back for two hours without changing the content, director or volume, the vagaries of how the speaker system handles these variations is irrelevant. It's set-and-forget. Moreover, a full-range sub/sat speaker system may offer LFE down to 20Hz, giving you the full audio spectrum the director intended. Even better, having identical satellite speakers allows for seamless pan-directional timbre-matching. You'll get the same with floorstanders for every channel, of course, but I am told by friends this would only be possible in their homes 'over their dead bodies,' which seems impractical.

Quite clearly Atmos has got a lot to answer for. Not only do I suddenly understand the unique merits of small speakers, I have realised that the best speakers for home cinema and the best for hi-fi are very different beasts. This, of course, now means I am going to have to split my music and home cinema systems into two discrete setups. Oh dear ■

*Do you have separate setups for music and movies?
Let us know: email letters@homecinemachoice.com*

Richard Stevenson's eclectic taste in music is mirrored by his eclectic taste in cinema snacks. He eats hotdogs with ice-cream topping





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